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LANGUAGES OF THE WORLD--NATIVE AMERICA FASCICLE ONE.

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NATIVE AMERICA FASCICLE ONE

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LANGUAGES OF THE WORLD:
NATIVE AMERICA FASCICLE ONE

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N. B.

Fascicle One, which follows, stops short of the actual list of languages aboriginal to Latin America in 1.5, below; this list, and all of 1.6 will appear in Native America Fascicle Two.

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CONTEMPORARY LANGUAGE SITUATIONS IN THE NEW WORLD

1.1 The traditional manner of describing contemporary language situations is from the point of view of a given language: the provenience of the language is given first, followed by the distribution of the language in neighboring areas or countries, followed by a list of more distant areas or countries in which the particular language is also spoken. This traditional manner is the one followed almost exclusively in Languages of the World: Indo-European Fascicle One. For example, the countries in which a given Romance language is spoken in Europe are given first; this is followed by the wider distribution of Spanish and Portuguese in Latin America, and of French in Anglo America as well as in Latin America. So also, the European provenience of Germanic languages is given before the world-wide distribution of one of the Germanic languages (English).

But a given language may be treated in terms of its adaptation to the country which immigrants adopted, as in Einar Haugen's work with Norwegians in America. This combines the virtue of the narrow perspective (which the focus traditionally given to a particular language provides) with the broad perspective of linguistic ecology (which represents a shift of emphasis from a single language in isolation to many languages in contact).

In linguistic ecology, one begins not with a particular language but with a particular area, not with selective attention to a few languages but with comprehensive attention to all the languages in the area. The area chosen may be a national unit. This perspective has been proposed as appropriate for India (by Charles A. Ferguson, John J. Gumperz and other sociolinguists, quite recently); and a quarter of a century ago there was an apparently similar plan to survey the language situation of China (by Fang-Kuei Li, and others):

"The National Language Movement with its hope of linguistic unification, the simplification of Chinese writing, the Romanization Movement, the giving of an orthography to languages not having a writing of their own, the possibility of providing reading material as an aid to mass education, for speakers of languages and dialects very different from the National Language --all these are problems which require a thorough knowledge of the linguistic situation in China." (Chinese Year Book, 1937).

The area chosen need not be an entire nation, as in the example above (even though special problems of administrative decisions are involved in complex multilingual nations like China, India, Pakistan and Indonesia). The language situation to be treated might more conveniently be that of a single one of the political divisions of a nation. Theoretical rather than practical problems would be involved if one selected and treated some culture area--which might coincide with a political state--from the point of view of interlanguage ecology (as the expansion of Provençal with French until Standard French becomes intelligible to Provençal speakers), or from the point of view of intralanguage ecology (as in dialect leveling), or from the point of view of the impact of different cultural relationships on the influence that a predominant language bears on fringe languages in some large continental area, as North America. An instance of the latter is the impact of English on American Indian languages north of Mexico; quite different impacts are observed in Latin America countries south of the border where American Indian languages are spoken as fringe languages.

We begin here with observations on the interlanguage and intralanguage ecologies recently reported by us and Noel W. Schutz, Jr. for the language situation in Arizona, as part of the Southwest culture area (with comment not distinguished from direct quotations of that paper). We offer then some generalizations about the differential impact of predominant languages on fringe languages in Anglo America and Latin America. The two lists of American Indian languages given in this report (1.4 and 1.5, below) are segregated according to whether the languages are spoken north of Mexico (1.4) or in Latin America (1.5). That this reflects more than an arbitrary segregation of language lists is shown below, after our more specific discussion of interlanguage and intralanguage ecologies in the American Southwest. This first example of the American Southwest represents a border area between Anglo America and Latin America.

Ethnolinguistically, the Anglo-American language-culture society differs in important respects from all other language-culture societies in the Southwest. Stated negatively, Anglo-Americans are not acculturating; stated positively, their culture is the model to which most other cultures in the Southwest are acculturating. Finally, the Anglo-Americans have achieved the dubious distinction, formerly shared by most 'primitive' tribes in the Southwest, of approximating 100 percent monolingualism.

In California, the Chinese and Japanese are of public interest to monolingual English speakers, while the California Indians are out of sight and sound (except to investigating anthropologists); in the Southwest, most American Indians and all Spanish Americans, all Mexican Spanish, as well as some Chinese and Japanese, are of wide public interest to Anglo-Americans (the monolingual English speakers). That is to say, there is a public awareness in the Southwest of languages and cultures of peoples whose forebears came from Asia or from Mediterranean Europe (in contrast to immigrants from numerous middle European countries, as will appear below).

Spanish Americans in New Mexico rank with American Indians in public prestige; Mexican Spanish speakers in the Southwest enjoy less prestige, but are patronized by Anglo-Americans whenever they offer Mexican food for sale, often in houses which do double duty (restaurant for the public and home for the restaurantuers). Chinese restaurants are, in contrast, most conspicuous. They are located in the central business districts rather in the residential districts; but Chinatowns are conspicuously absent in the Southwest. The Japanese from California that were interned during World War II at Poston (Parker) on the Colorado River drew public attention to the fact that there are, in fact, Japanese residents in the Southwest--the least conspicuous of the fringe societies.

By 'fringe' society is meant a society whose members speak another language than English, often bilingually, of whom the monolingual Anglo-Americans are aware. In contrast to Southwestern Indians, the American Indians in California do not constitute fringe societies, since the predominant-English speakers never really see them; one might say that the California Indians of today constitute invisible societies.

The 'fringe societies' of the Southwest were all in the Southwest before the arrival of Anglo-Americans, except the two from East Asia--the Chinese, who came with the construction of the railroads, and the Japanese. These two, and the American Indians, constitute 'fringe societies' chiefly from the point of view of language census. The Southwestern Indians now compete with each other for land which altogether constitutes about a fourth of the total land area. In real estate terms, accordingly, the Southwestern Indians are not 'fringe'; and, of course, they are primary in terms of the time when their forebears entered the Southwest.

In Arizona alone, land for tribal use (Indian reservations) accounts for 26.7 percent of the total land area. The total population of Arizona is increasing decade by decade at a greater rate than the increases in Indian populations--from 204 thousand (1910), to 334 (1920), to 436 (1930), to 499 (1940) to 750 thousand in 1950; and in less than a decade and a half--since 1950--the Arizona population has doubled. The last U. S. census, for April 1960, gives Arizona a population of 1,302,161. This means that there are now just about as many people in Arizona alone as there were

American Indians in the whole of the New World north of Mexico at the time of Columbus. And today's population in Arizona is of course preponderantly Anglo-American.

These Anglo-Americans seem on the whole to be unaware of the fact that they often live beside neighbors who speak some non-English language at home and who identify each other in special social clubs, even though they are not identified as representing sub-cultures by the Anglo-Americans (for whom, accordingly, such European societies in Arizona are invisible societies). The main figure for each population (including the rural fraction), is given in descending order: over five thousand with German mother tongue (723 rural), over two thousand with Italian mother tongue (196 rural), over a thousand each with Polish and with Russian-Ukrainian mother tongues, almost a thousand with French (143 rural), over eight hundred with Swedish, over seven hundred with Yiddish, over six hundred with Hungarian, over five hundred each with Dutch and Greek and Czech-Slovak mother tongues, over four hundred each with Serbo-Croatian (136 rural) and Arabic mother tongues, over three hundred each with Norwegian and Danish mother tongues, over two hundred with Lithuanian and almost two hundred with Finnish mother tongues, over a hundred with Rumanian and almost a hundred with Portuguese mother tongues. Altogether, about a score of foreign languages are represented by European residents in Arizona who are already American citizens, or presumably will be. They are urban rather than rural for the most part. They are presumably bilingual, speaking or learning English as a second language. Ecological problems concerning these bilingual Americans remain for future study.

The European languages of these bilingual residents of Arizona are not only representative of the Indo-European language family, but also of all other language families known in Europe--Uralic (Hungarian and Finnish), Semitic (Arabic), and even Basque, a unique remaining language of a language family which may once have been represented beyond the Pyrenees, and even beyond the Iberian Peninsula.

There exists a myth-like rumor: the original Basque who came to the Southwest early in this century found that sheep herding was congenial (since that is what they did in Europe); that the Navaho were sheep herders, and that Navaho women were inexpensively marriagable (while the importation of Basque girls from home would have been expensive). In consequence, according to this rumor, Basque-Navaho marriages took place. This consequence, if true, would be ecologically important if the offspring of such marriages were brought up bilingually in Basque and Navaho. Basque has been said to be typologically similar to languages of the Algonquian family, and this family of languages is typologically not too unlike languages of the Athapascan family to which Navaho belongs.

The rumor remains unsubstantiated, and the Southwestern Basque remain elusive. Those we know are extraordinarily shy and uncommunicative. They continue the bilingualism of their youth and --now, after a half century in the American Southwest--still do not often speak English. Only a fourth of of the original 1910 immigration (some dating as early as the San Francisco fire of 1906) are said to be alive--potential informants with whom work should be done without delay.

Other groups of immigrating Basque, presenting a somewhat different ecological problem, are now entering the Southwest (as well as western ranch country generally) on a non-permanent basis. As many as 500 Basque arrive annually, to return for the most part to France or Spain after a three year renewable contract.

Less is known about the language situation of the invisible societies in the Southwest (e.g. Basque) than of the fringe societies represented by modern American Indians. Examples follow of Yaqui, Papago, the Yuman languages in Arizona, Pueblo languages without Southwestern relatives (Zuni and Keres), Hopi and other Uto-Aztecans in the Southwest, Kiowa-Tanoan, and the Southwest branch of the Athapascan family (Navaho and Apache languages).

YAQUI

Whether living in a Yaqui center or in an adjacent Mexican American barrio, Yaqui in Arizona now number about three thousand. Not all of these speak English, but almost all speak both Spanish and Yaqui. Those few who speak only Spanish are dubiously Yaqui; this is well exemplified by the sad comment of one such monolingual (Spanish) speaker: 'Some people say I'm Yaqui...'.

While we cannot say that the Yaqui of Arizona are wholly trilingual, they are sufficiently so to permit research in trilingual ecology. Such research might well be extended from Arizona to the ten thousand Yaqui in Sonora--or rather to the Yaqui-Mayo since Mayo and Yaqui are dialects of one language, one of the four Uto-Aztecan daughter languages spoken in Arizona. The Yaqui in Arizona are 19th century refugees from Mexico whence they fled to escape an extermination campaign led by a Mexican general (Yzabal); the memory of their common hardship has acted as a bond of continuing tribal self-identification in Arizona. This tribal self-identification is remarkable in view of the fact that the Yaqui have no home reservation to return to at frequent intervals to enjoy reunion in an atmosphere of native ceremony (as do the Hopi, for example). In fact, when the Arizona Yaqui do all gather together for Easter ceremonies, they practice only half-native ceremonies. They have been called semi-Catholic; their music and musical instruments, their poetry and their chants are largely borrowed or else transformed from Spanish models--e.g. there exists a large body of Yaqui song ballads (corridos). Their occupations are as diverse as their trilingualism--from ranching and cotton picking to railroading and migratory work.

PIMA-PAPAGO

Prior to this decade over half of the Papago in Arizona were monolingual, speaking one or another of the Papago or Pima-Papago dialects; of the 40 percent who were bilingual (English-Papago), only half were literate.

The advent of the day school has accelerated the use of English (and literacy), as has the most recent trend in education in Arizona--sending Indian children to public schools established primarily for Anglo-Americans. This most modern innovation leads to a correlation or contrast between growing bilingualism associated with the school versus continuing monolingualism associated with remote regions. Some hostility is expressed toward the increased use of English, even by those who have become bilingual. We can cite an apocryphal anecdote told for the Yaqui, as well as for the Papago--that of the bilingual who knows English but refuses to talk English except to his dog. On the other hand there is also an Anglophile bias that is expressed by a dubious Papago and Maricopa generalization--that the predominant language spoken at the fiestas or saints days is English; actual observation does not confirm this generalization. The conclusion, of course, is that the general reaction toward the sudden increase in the use of English is ambivalent--an emotional response found both among the Papago and their neighbors.

Predominant Papago monolingualism continues among older Papago in all areas, and among both older and younger Papago in remote regions. In the school areas there are instances in which the grandparent generation, speaking Papago, has difficulty in communicating with the grandchild generation speaking in 'broken down' Papago. This kind of difficulty may be peculiar to some Papago: it is so rare otherwise to be worth emphasizing--and investigating (in detail) where it occurs among the

Papago. Before acculturation, the grandparents were the educators, the dominant generation in the three generation family. The function of educator has now been taken over by Anglo-American teachers in the school areas, and an extraordinarily rapid shift from Papago to English, without an intermediate period of bilingualism, is reported. The pre-school child may speak mainly Papago, but the day school or public school milieu which he subsequently enters does not repel him or punish him, as did the boarding school milieu in which he parents were educated. Instead it seduces him. In no time at all, he becomes a monolingual English speaker for practical (if not emotional) purposes. English becomes more than a cultural bridge; it becomes more than a vehicle of communication; it becomes a constructive-destructive symbol: the acceptance of new cultural values and the rejection of old ones. Lurking in the background is Spanish, associated prayerfully with religion, which among 90 percent of the Papago is Catholic; but Spanish is not in the foreground, is not used for family conversations, nor practical or medical consultations, and certainly not in educational affairs. The Zeitgeist characteristically alters his course, but hardly ever so abruptly as in this modern Papago instance.

YUMAN

In Arizona there are three Yuman languages, which we label (1) the Upland Yuman or Pai language (Havasupai, Walapai and Yavapai dialects), and (2) the Up River Yuman language (Mohave-[Maricopa-Halchidom-

Kavelchadom]-Yuma dialects), in contrast to a language which has some dialects spoken in Arizona, (3), the Delta River Yuman language (Cocopa-[Kohuana-Halyikwamai] dialects). This third language probably has other dialects spoken in California. On first impression, these Yuman languages and/ or dialects seem to be so similar, each to its neighbor, that one in tempted to toy with what has been called a 'chain relationship' of dialects extending all the way from Havasupai (spoken in the Grand Canyon region) south and southwest into California; but as more is known about the languages numbered (1), (2), (3), above, clear-cut language barriers appear between dialect groups as indicated. There are beyond doubt three separate Yuman languages spoken in Arizona. Language names for Yuman languages spoken in southern California and Baja California (both parts of the Southwest) no doubt represent more than one separate Yuman language--Diegueño, Kamia, Kiliwa, Akwaʔala (Paipai), Nyakipa (and others in Baja California which are names for now extinct languages or dialects, such as all those that are distinguished from the above as Peninsular Yumans--namely, Borjeño, Ignacieño, Cadegomeño, Laymon, Monqui, Didiu or Cochimí). The names of extinct Yuman languages or dialects in Baja California are more numerous than those in southern California or Arizona. In comparison with Arizona, the language situation in southern California and Baja California shows some same and some different diversity of language families; California includes, beside the Yuman languages indicated, also such Uto-Aztecan languages as Cahuilla (spoken by fewer than a hundred of the six hundred remaining Cahuilla); and Luiseño (spoken by two hundred of the thousand remaining Luiseño); and also such Hokan languages as Serrano (spoken by two or three of the remaining four hundred Serrano), as Seri and as Chumash.

So as far as Arizona is concerned, the Yuman situation seems relatively clear-cut; we know, at least, where the language barriers lie--namely between the groups of dialects labeled (1) the Upland or Pai language, and (2) the Up River or Mohave-Maricopa-Yuma language, and (3) the Delta River or Cocopa (plus) language.

Archaeology and ethnohistory combine to show that these three Yuman languages were not all spoken from time immemorial where they are now located (in the ethnographic present); and more importantly--for gaining a perspective of possible influence from neighboring languages--that these Yuman languages were from time to time in contact with various Uto-Aztecan languages. The effect of such contact might still be found in special research concerned with linguistic area. Such research will become possible after extensive dictionaries are compiled for the neighboring Uto-Aztecan languages and the three Yuman languages in question.

The latter, when their habitat was more compactly situated on the Colorado River, were sedentary agricultural people, as were the Hopi and the Pima-Papago, from the middle of the first millennium of our era onwards. The Southern Paiute arrived in upland Arizona (1150) to occupy territory previously occupied by the Hopi. The migration of Yuman (1), speakers of the Upland or Pai language occurred later (1300, with the Yavapai not reaching the Verde Valley until 1400), as did that of Apachean speakers (18th century). Some speakers of the Up River Yuman language (2), the Maricopa, have a tradition of having lived from time immemorial on the Gila River; the fact that they are still not differentiated by language barrier from the Colorado River dialects such as Mohave and Yuma suggests that the Maricopa provenience was the Colorado. At any rate, in historical times (first half of the last century), the Maricopa were joined on the Gila by mutually intelligible speakers, some from Gila Bend (Kavelchadom) and some from the Colorado River; dialect leveling in the last century makes it difficult today to distinguish between Maricopa-Halchidom-Kavelchadom, though it is possible to distinguish between this former conglomeration of dialects and the other two remaining dialects of Yuman (2)--namely Yuma and Mohave. The latter had long contact with Chemehuevi of the Uto-Aztecan family because many Chemehuevi migrated from southeastern California to settle beside the Mohave between 1776 and 1840.

Once having relocated themselves in protohistoric and historic times, the speakers of the Yuman (1) language maintained friendly relations with some non-Yuman neighbors, despite language barriers. It may be, as Anza reports, that the first effective contact with Hopi occurred after the 1780 drought, when hundreds of Hopi sought refuge among the Havasupai and were hospitably received. The friendly relationship between the two continued through the Spanish period, despite lack of agreed upon boundary in that period. Geographical features could of course provide natural boundaries--even dramatic ones--as the Grand Canyon which kept the Southern Paiute effectively separated from the Havasupai and Walapai; and the Aquarius mountains which separated the Walapai from the Yavapai. However, speakers of different Yuman (1) dialects became traditional enemies in this period--e.g. Havasupai and Yavapai--despite the fact that they spoke the same language.

In Yuman (2) again, hostility occurred between politically distinct but linguistically intelligible speakers, while friendship and alliance took place across language barriers. The Mohave speakers of Yuman (2), coming from the north, and the Yuma speakers of Yuman (2) coming from the south, pressed upon the Maricopa, also speakers of Yuman (2), who moved eastward along the Gila River. Despite the alliance between the Yuman Maricopa and the Uto-Aztecan Pima, and despite their 1857 success in defeating the Mohave and Yuma, the Maricopa withdrew from the Colorado River.

A more recent instance of friendly contact across language barrier is the reception, after 1889, given by Yuman speakers (Walapai first and then Havasupai) to the Paiute Ghost Dance--in reaction to the encroachment of Anglo-Americans.

Our thesis, suggested by these passing examples, is that language barriers between neighbors sharing a similar but not identical culture (as Hopi and Havasupai, or Pima and Maricopa, or even Walapai and Paiute) permit communication in restricted domains (or periods of time) and promote peace, while the lack of language barriers among such culturally similar groups means continuing communication and the opportunity for hostile differences to be discussed and disputed (as between the Mohave and Maricopa or the Yuma and Maricopa).

ZUNI

In a recent paper by Stanley Newman, detailed lexical and phonological evidence is brought together to demonstrate that Zuni has remote relatives in phylum linguistics. It turns out that Zuni is not related to another language family in the Southwest, but rather to certain language families (Yokuts and Miwok, especially) in the central California culture area; these non-Southwestern languages are widely divergent members of the California Penutian phylum, which is now enlarged by the inclusion of Zunian Zuni. In glottochronological reckoning the most divergent pairs of the old California Penutian were Miwok and Costanoan, as one pair, and Wintun and Maidu as another pair. Each of these pairs is computed to have taken five millennia or more to differentiate. In the enlarged Penutian, Zuni and Yawelmani Yokuts is an even more divergent pair, representing seven millennia's worth of differentiation.

Zuni culture is closer to that of the Uto-Aztecan Hopi Pueblo than to that of the Eastern or Rio Grande Pueblos. After the Pueblo Rebellion of 1680, some Hopi took refuge with the Zuni; subsequent cultural borrowing between the two Pueblos is more than superficial; it makes possible a dichotomy between Western Pueblo culture and the Eastern or Rio Grande Pueblo culture.

KERES

The Keres language is spoken at Acoma, and with some slight dialect differences, in a half dozen other pueblos along the Rio Grande. The total number of Keres speakers is now over nine thousand. The population of all New Mexico pueblos began increasing after a decline which ended at the turn of this century; since 1930, for example, most pueblos have doubled their populations. Spanish has continued in many cases beside English as a second or third language. In economic activity, farming competes--more or less in different pueblos--with acculturated self-employment as stock raising, and with wage earning at neighboring Anglo-American towns.

There are many language barriers in historically known Pueblo cultures, which, nevertheless, have managed to develop a remarkably similar culture. The evidence for the statement that Keres was formerly a lingua franca is unknown to us. No one Pueblo language is known to have been used as a lingua franca, despite the known use of six separate Pueblo languages in historical times: (1) Zuni and (2) Keres, as indicated above; (3) Tiwa and (4) Towa exclusively along the Rio Grande; (5) Tewa along the Rio Grande and also on First Mesa, in the first village before the villages in which (6) Hopi is spoken. Aside from the two single languages (Zuni and Keres) without relatives in the Southwest, the remaining Pueblo languages belong to language families with definitely known sister languages spoken both within and beyond the Southwest. Thus, Hopi is a member of the far-flung

Uto-Aztecan family; Tiwa, Towa and Tewa are the only sister languages of the Kiowa-Tanoan family found in the Southwest; the fourth language in this family is Kiowa, spoken in an adjacent culture area beyond the Southwest.

TANOAN

It was until recently thought that Tanoan could be reconstructed as an exclusively Pueblo language family, with Kiowa set apart as a remote relative--as Yokuts is a remote and in addition, geographically distant relative of Zuni. But as more information became available, it was found that Kiowa is structurally coordinate with Tiwa, Towa and Tewa in one language family. Though the Kiowa have lived in the Southern Plains in historic times, they have a traditional history of having formerly lived in the Northern Plains. But the three languages of this family that are now spoken in Pueblo cultures--Tiwa, Towa, and Tewa--are regarded by their speakers as having been in Pueblo culture from time immemorial.

HOPI

Hopi speakers still continue living the life of Pueblo culture which represents, for the west, the northernmost extension of the neolithic economy that was developed and brought to florescence in Middle America; in the arid Hopi version of this economy, there are many peculiarities (e.g. corn must be spaced so that leaves of one plant are in non-touching distance of another). A non-Pueblo version of this economy also extended to speakers of another Uto-Aztecan language in Arizona, Pima-Papago (see above). The Middle American development of the neolithic did not reach any other Uto-Aztecans in Arizona. The various Southern Paiute groups, including the Chemehuevi, are somewhat marginal to cultures of Arizona. Of the Southern Paiute proper, not more than a hundred live in Arizona (Kaibab).

The Hopi not only attempted to exclude the Spanish and their culture, as did other Pueblos, but succeeded. Having regained complete administration of themselves after the Pueblo Rebellion of 1680, the Hopi continued their political autonomy for the rest of the Spanish period and in the early part of the Anglo-American period. Contact with Anglo-Americans was frequently made for forty years after 1850, with surveyors and other investigators who paid the Hopi for their services--in contrast to services rendered but unpaid for in the preceding Spanish period. Only since 1887 have the Hopi experienced Indian Bureau Administration, regarded in part, as help from Anglo-Americans (pahaana) who, according to a folkloristic belief, would come from the east to be helpful. Neither administrators nor missionaries were exploitative; and they were sometimes but not always helpful in times of need. The arrival of Anglo-Americans stopped Navaho raiding by 1864. But after a drought which lasted more than three years, depleting Hopi supplies kept in anticipation of such emergencies, the officials of the Territory of Arizona could find no means of helping the stricken Hopi. The memory of resulting death from smallpox as well as from lack of food continues to haunt modern Hopi, who often say 'our grandmothers knew starvation'. Many of these grandmothers and their families left the Hopi mesas to take up residence in Zuni; when they returned, they were said to have learned Spanish, which presumably served as a lingua franca in the period of residence with the Zuni.

English was learned by few if any Hopi in the 19th century when the Anglo-American administrators found seven Hopi villages on the three mesas, which were numbered from east to west: Walpi and Sichomovi on First Mesa (as well as Hano, occupied by Arizona Tewa who were--and still are--bilingual in Hopi and Tewa, while Hopi never learn Tewa); Mishongnovi, Shongopovi, and Shipaulovi on Second Mesa; and Oraibi (now called Old Oraibi) on Third Mesa. Tom Polacca, one of the Arizona Tewa from Hano, became a Trader at the foot of First Mesa at the turn of the century, and Lorenzo Hubbell was a Trader below Third Mesa. Silversmithing, diffused from Zuni and Navaho, was then added to Hopi arts and crafts. Archeological models copied by Nampeyo rejuvenated interest in pottery at First Mesa; after two generations, any attempt to make pottery at Third Mesa is today thought by the Hopi to be somehow inappropriate. The three mesas still continue occupational and dialect differences. In Hopi theory, however, it is not the Mesa but the village that is socioculturally autonomous; and according to cultural ideal if not expectation, culture values or prejudices are uniform for each village. At the turn of the century, Old Oraibi developed two factions ('friendlies' and 'hostiles'), each with rival chiefs whose followers conducted separate dual ceremonies. Dual administration made it possible in 1904 for the 'hostiles' to invite certain families from Shungopovi to live at Oraibi; had the 'friendlies'welcomed settlement by dialectally different speakers in Oraibi, differences between Second Mesa and Third Mesa dialects might be leveled by now. One of the rival chiefs, realizing that the not-Hopi and therefore bad situation at Oraibi was worsening rather than bettering, proposed a bloodless battle, a tug-of-war or pushing contest, with the agreement that the stronger of the two factions should remain at Old Oraibi, while the vanquished should leave and colonize somewhere between First Mesa and Moencopi. The chief of the 'hostiles' who proposed this turned out to be a loser in more than one sense; he led his faction numbering six hundred Hopi to found Hotevilla--also on Third Mesa--where they and their offspring reside (or reside at a neighboring secondary colony, Paaqavi); he incurred the displeasure of the Anglo-American administrator at Keams Canyon who had the leaders of the 'hostiles'arrested and jailed for a year; in that crucial year the families that were bereft of men suffered from insufficient crops, since, in the Hopi division of labor, men do the farming. The half of Old Oraibi which remained, though less conservative because they were 'friendly' to Anglo-Americans, dwindled in population, or relocated at New Oraibi, at the foot of the mesa. The population of New Oraibi (324) is now double that of Old Oraibi (148).

Shifting in Hopi population because of factionalism or drought or for modern economic advantage has continued throughout the historic period--e.g. the 1780 flight of families to the Havasupai (q.v.); and a century later, the flight of families to the Zuni (see above); and the later colonization at Moencopi, Hotevilla, Paaqavi, New Oraibi, Polacca and Keams Canyon. From 1910 to 1943 there were border conflicts between the Hopi and Navaho. In 1947 some 17 Hopi families accepted irrigated lands near Parker (Poston) on the Colorado River. In such Anglo-American towns as Winslow, Flagstaff, Holbrook, Phoenix, Gallup, and Grand Canyon a total of some eight hundred Hopi now reside. Temporary or permanent residence of Hopi off the Mesas, whether for refuge, for work, or for going to school (and subsequently drifting back to the Mesas after years of post school work) has had the interesting effect of expanding the Hopi language by flooding it with English. (Some Hopi-Spanish bilingualism in the 19th century was followed by almost exclusive use of Hopi, until well into the 20th century.) The younger present day English-Hopi bilinguals often speak an expanded Hopi, in which Hopi grammar is used with selection of English beside Hopi words; the speaker has a choice (all Hopi or expanded Hopi). For example, in entering a Hopi house one asks politely, 'What are you doing?' and the polite answer is to specify exactly what one is doing; a recently married Hopi woman answered our all Hopi greeting in expanded Hopi, 'nɨʔ Gene's shirt iron-lawɨ' (i.e. *I'm ironing Gene's shirt*), in which only two morphemes (nɨʔ *I* and -lawɨ *to do*) are selected from the Hopi lexicon, while the remaining three morphemes are selected from English by a speaker who, on other occasions, would select Hopi morphemes for her husband's personal name, for *to iron*, and for *shirt*. Expanded Hopi maintains Hopi grammar, but involves the occasional intrusion in Hopi utterances of much English (where the Hopi equivalents are known), almost as though the intruded English words were regarded as 'synonyms' of possible Hopi words, rather than as loans replacing Hopi.

APACHEAN

The Athapascan family that is reconstructed by the comparative method is spoken in three far-flung and non-contiguous areas: the Mackenzie River drainage, the Pacific Coast and the Southwest. Unambiguous evidence exists, from which anthropologists, with unusual agreement, infer that speakers of an Athapascan language or languages wandered into the Southwest in protohistoric times, after which the first Spaniards arrived and left written records which initiated 'history' in the Southwest. The two common names by which Athapascan speakers in the Southwest are now known are Navaho and Apache; Harry Hoijer has introduced 'Apachean' as a cover term for both Navaho and Apache languages. It is quite possible that when protohistoric bands of northern Athapascan provenience came into the Southwest, they spoke one language, with different dialects for each band--a single language which we might call Proto-Apachean. At any rate, the first Spaniards in the Southwest did not distinguish Navaho dialects from Apache dialects or languages.

By the time the Spaniards did make a Navaho-Apache distinction (in the 18th century), they also began to recognize Apache tribal or band differences and the habitats of each: (1) Coyoteros (from headwaters of Salt River to to Mogollon Rim); (2) Pinaleños (middle Gila and San Carlos Rivers); (3) Tontos (along Tonto Basin and Mogollon Rim, as far north as the San Francisco Peaks or modern Flagstaff); (4) Mimbreños (headwaters of the Gila River as well as of the Mimbres River in New Mexico); (5) Chiricahuas (SE Arizona, SW New Mexico and the Sierra Madre mountains of northern Mexico); the latter are rumored to be continuing in the richly rewarding predilection of the Apacheans for raiding villages--the last raids are said to have occurred in 1958). Beside five bands of Western Apache, there are the wholly non-Arizona or Eastern Apache, the Jicarillas and the Mescaleros, with present populations of about 15 hundred each, who live in New Mexico.

Today, these distinctions of the 18th century Spaniards are generally recognizable in reservation terms.

The Coyoteros (1) are centered in the Fort Apache Reservation, and are known as different bands of White Mountain Apache (Cibicue, Carrizo, North Fork, etc.) which still maintain separate local residence with little amalgamation. Their total population is given as over four thousand for 1963 (White River 1383, Cedar Creek 137, Carrizo 129, Cibecue 784, and so on). There is also at Fort Apache a group of Chiricahuas in the Cibecue area.

The Pinaleños (2) are now known as San Carlos Apache; some Chiricahua and Tonto and other Apache bands are mixed with the San Carlos, as well as perhaps half a hundred Yavapai, yielding a total approximating four thousand.

The Tontos(3) are now at Camp Verde--almost two hundred among four hundred from other bands of Apache; some Yavapai also live at Camp Verde.

Estimates give as many as ten thousand for the total number of Apaches living in Arizona.

Dialect distance testing between (1) White Mountain Apache, (2) San Carlos Apache, and (3) Tonto Apache demonstrates beyong doubt that these three represent dialects of one language. There may well be a language barrier between Chiricahua and White Mountain-San Carlos-Tonto, but further investigation is indicated. The Eastern Apache versus Western Apache distinction may turn out to be more of a geographic than a linguistic distinction. Even the Navaho versus Apache distinction remains in linguistic doubt, so far as dialect distance is concerned. Navaho speakers regard Navaho as separate from Apache speech which, however, they recognize as similar to Navaho.

Apache-English bilingualism seems to be of the continuing kind rather than of the replacive kind. Apache (or Western Apache, including Chiricahua Apache) functions in all interpersonal relationships, except with Anglo-Americans, when English is used. Apache children who speak English to the exclusion of Apache are conspicuously few. There are also only a few monolingual Apache speakers.

In contrast to the uncertainties of knowing where to draw the line of separate language or mere dialect difference among the various Apache bands, there is complete certainty for Navaho: it is one language spoken on an east-west axis mainly between the Hopi and Rio Grande Pueblos, and generally north of the Apache bands. The Navaho country (diné bibéya) is full of Navaho place names, which are descriptively relevant either to Navaho or to Pueblo cultural interests. Navaho culture might be thought of as a transformation of Pueblo culture. The Navaho were also cultural donors to a few bands of Southern Paiute who served them as 'slaves', it is said; by evidence which is still observable, some Southern Paiute at Navaho Mountain and at Willow Springs (between Moenavi and The Gap, Arizona) borrowed house types and style of dressing from the Navaho.

We know from Evon Vogt's monograph that some Navaho veterans of World War II reacted to Anglo-American social exclusion upon their return to the Southwest by refusing to speak English when spoken to in English. This reversion to a feigned monolingualism from demonstrated bilingualism is not necessarily restricted to returned veterans, or even to men; but there still exist an uncounted number of genuine monolinguals among the Navaho. Since Navaho Traders went into the Navaho country, and more often than not learned some Navaho, it was possible for the Navaho to become beneficiaries of Anglo-American goods and services without learning English. This is no longer possible in very recent acculturational circumstances--e.g. labor in connection with uranium and related industries, or litigation over controverted Navaho-Hopi lands, or education in which Navaho children are placed in schools established for Anglo-Americans. Navahos are now becoming bilingual (English-Navaho), willingly, in contrast to their resistance to becoming bilingual in the Spanish period, as well as in the Anglo-American period until very recently.

From protohistoric times until the most recent times, when Navaho energies and resources are contributing something to atomic power, the following cultural increments were added to the food gathering and hunting activities that the Navaho's forebearsmust have practiced before they entered the Southwest. Exactly six successive periods of acculturational additions to this pre-Neolithic base bring the Navaho up to date.

(1) The Navaho added agriculture after they came to the Southwest. When the Tanoan Jemez told the Spanish in 1626 about the existence of the Navaho, the Spanish may have identified the Navaho as Apache with 'great planted fields'; and though this is questionable etymologically, there is no doubt that the Navaho had already borrowed agriculture from Pueblo culture before the Spanish encountered them.

(2) The Navaho added sheep, horses, and even cattle, borrowed from the Spanish (at a time when the Navaho were being raided, perhaps in Plains Indian style, by the Utes from the north).

(3) The Navaho added or rather transformed Pueblo ceremonialism and

weaving and pottery making--by stimulus diffusion rather than by direct borrowing--in a period when many representatives of different Pueblos (Jemez, Tewa and Keres speakers especially) came in considerable numbers to hide among them. Such Navaho-Pueblo co-residence lasted for as long as forty years (after the 1680 Pueblo Rebellion, and especially after 1692--after the news that the Spanish were returning to reconquer the Pueblos).

(4) The Navaho innovated from a Plains culture base, or modified the Ute raids in such a way that they became, instead of a war game, an economically profitable design of raiding both Pueblo settlement and Spanish settlements by or before 1800 (when a Navaho 'Mexican clan' consisted of descendants of Spanish women captives; the Spanish made retaliatory 'slave raids' to capture Navaho to do housework and field work in the early 19th century; Pueblos as far away as the Hopi appealed, in vain, to the Mexican government in Santa Fe to curtail the Navaho raids).

(5) The Navaho added their current style of dress, and other associated habits, while in Anglo-American custody. After 1863 Kit Carson destroyed Navaho means of livelihoodacquired in previous periods of acculturation--tearing up corn fields that were acquired in period (1); slaughtering sheep that were acquired in period (2); cutting down peach trees which were possibly planted by Spanish captive wives in period (4). Then by offering the alternative of rations or starvation, Kit Carson persuaded eight thousand Navaho--90 percent of all Navaho, according to Edward H. Spicer's estimate--to take the 'Long Walk' to Bosque Redondo in New

Mexico where over two thousand died of smallpox in 1865. The surviving Navaho returned to their former home, three-fourths reduced in area, to continuing rations, and to resuming raids against Zuni and Mexican settlements by 1879; the pathetic economic plight of the Navaho continued thereafter for over half a century. In effect, Kit Carson destroyed the design of raiding that the Navaho acquired in period (4).

(6) The period of modern prosperity finds the Navaho emerging as the most populous tribe in the United States. In acculturational periods (1) to (5) the Navaho were essentially monolingual; before long now (6) they will become bilingual, as are the majority of speakers of all other Indian languages in the Southwest today. And, as for the majority of Southwestern Indians, ceremonial activities, with their associated arts and crafts, also continue; in the case of the Navaho, these were acquired or reshaped in period (3), above.

More attention is devoted to Hopi and Navaho, above, than to any other language-culture units in Arizona. Relative to all other fringe societies in Arizona, the Hopi and Navaho stand out most conspicuously.

There are few other states or culture areas in modern America on which information on the language situation is as full as that for Arizona and the Southwest in general. For Kansas, however, there has recently appeared a survey of Foreign-Language Units, prepared by J. Neale Carman (Lawrence, 1962). A brief excerption of this survey and a little information gathered from other sources is given below.

KANSAS

The two outstanding foreign language groups in Kansas, both consisting of Russian German immigrants, are the Mennonites and the Volga Germans. Of these two, the Mennonites have maintained a great deal of cultural homogeneity and distinctiveness, much more so than the Volga Germans who are divided into many religiously oriented factions. At the same time, however, it is the Volga Germans who have preserved their immigrant language so well that children have been reported as speaking German to one another as recently as 1958. The Mennonites, on the other hand, have largely lost their native Low German mother tongue. The third largest immigrant society in Kansas is Swedish; the Swedes, however, unlike either the Volga Germans or the Mennonites, have become completely acculturated.

In 1860, the number of foreign-born people in Kansas (most of whom presumably also spoke their respective mother tongues) was approximately 12,500. About half of this number represented immigrants from the British Isles (primarily speakers of English along with perhaps 150 speakers of Welsh, a Celtic language). Of the remaining six thousand or so immigrants, 4,500 were speakers of German, 500 French, about 500 Scandinavian (Swedish, Danish and Norwegian); the rest represented various other languages with only a few speakers each.

The year 1895 shows the largest number of foreign-born of any stage in the history of Kansas, a total of 188,000 (including 33,000 from the British Isles) out of 1,331,000. At this time large areas of over a half dozen central Kansas counties had a foreign-born population of more than 50 percent of the total. The foreign-born population of Kansas in 1895 consisted of:

English (British)	14,000
Scottish	4,500
Irish	12,000
Welsh	2,000
Canadian (English?)	8,000
German	128,500
Swedish	31,500
Norwegian	3,000
Danish	5,500
Dutch-Flemish	2,000
French	8,000
Italian	1,000 (probably more)
Czech	7,000
Polish	500
All others	500 .

German speakers outnumbered other foreign language speakers in Topeka (3,000) and Leavenworth (5,000) in 1895. The most conspicuous immigrant groups in the Crawford-Cherokee Mining District and the Kansas City Packing District, at the turn of the century, were the Old Immigrants (German, Swedish, and French), at a higher economic level, and the New

Immigrants (Slavs, Italians and Mexicans) at a lower economic level.

In terms of their European provenience, the total number of Kansas settlements with homogeneous foreign origins are:

330	German
59	Swedish
30	Mexican
23	French
23	Czech.

From the 19th century beginning of all this immigration, English was accepted as the language of commerce even though many immigrant merchants were bilingual and, accordingly, would have been able to serve all customers in their own language. In the 20th century, the depression of the thirties and the Second World War brought the use of foreign languages in Kansas to the verge of extinction.

The most recent figures available for the number of foreign-born persons residing in Kansas are from 1940:

British	8,500
German	20,500
Scandinavian	6,000
Czech	2,000
Other Slavic	3,500
All others	2,000.

This gives a modern total of 51,000 foreign-born; 43,000 apparently speak a non-English language. Many of the residents of Kansas who at some time did (or in some instances still do) speak a language other than English, came to Kansas not directly, but via other states--notably Colorado, Illinois, Indiana, Iowa, Michigan, Missouri, Nebraska, Ohio, Oklahoma, Pennsylvania and Wisconsin.

The American Indian population of Kansas has not been mentioned so far. That there were large numbers of diverse Indian groups in Kansas in the 19th century is suggested by the fact that for 1853, for example, no less than 15 Indian reservations may be listed, namely:

Ofoe
Iowa, Sac, Fox
Kickapoo
Delaware
Pottowatomie
Wyandotte
Shawnee
Piankeshaw, Wea, Peoria, Kaskaskia, Ottawa, Chippewa
Sac, Fox
Kaw (Kanza)
Miami
Cherokee
Osage

Quapaw
Iroquois (and others).

Today there remain in Kansas a thousand Pottawotamie, nearly 350 Kickapoo, about 70 Chippewa and Munsee, and several hundred Iowa, Fox and Sac (near the Missouri River on both sides of the Kansas-Nebraska border). American Indians of these tribal affiliations, as well as Indians with the other tribal and linguistic affiliations given in the preceding list (for Kansas as of 1853) have, for the most part, been relocated in Oklahoma.

ANGLO VS. LATIN AMERICA

The preceding review of language situations in the Southwest and in one state in the Middle West (Kansas) is too restricted to serve as an adequate sample of all such situations in all the rest of North America north of Mexico. While it is not feasible to survey the remainder, and while it would be premature to survey language situations in areas and states of Latin America, it is still possible to offer a few generalizations, especially observations of contrast, on the differential response of American Indian languages to Anglo American culture in general, and to Latin American culture in general.

The combination of languages for individual speakers of American Indian languages in Anglo America is mostly English and their aboriginal language, but sometimes the native language and French (e.g. an Algonquian language and French in eastern Canada, or Tunica and French in

Louisiana), or Greenlandic Eskimo and Danish, or Aleut and Russian. In Latin America the combination is mostly an aboriginal language and Spanish or Portuguese, but sometimes an Indian language and another European language (English or German or Italian or French). Native speakers of these European languages--mostly immigrants--are usually also bilingual in Spanish or Portuguese.

The most striking continental difference in the reaction of speakers of American Indian languages is not, however, that they take the opportunity to learn a greater variety of European languages as second languages in different parts of Latin America than in different parts of Anglo America, but the fact that Indians in Latin America borrow large fractions of their present day total of lexical resources from Spanish or Portuguese, while Indians in Anglo America borrow much less from English and French. This has been remarked upon before, and is sometimes accounted for by the fact that, except for occasional individuals who were denigrated as squaw men, Anglo-American men have not married Indian women. On the other hand, Spanish and Portuguese men and Indian women did often generate families in which the children were apt to be bilingual.

Since the aboriginal language is the mother tongue of the mother more often than not, one would expect it to be the domestic language, the first language learned by the child, with Spanish being the language of the school; and also of older children; and of adults who work in the larger towns and cities. This is no doubt usual. Rarely, however, one finds in Latin

America a situation characterized in the title of an IJAL paper--that of learning a second language (Spanish) first (i.e. before the tribal language). In this case the tribal language is associated with initiation in a rite de passage ceremony which transforms a child into a full-fledged member of the tribe. It is then--during or after adolescence--that the individual is spoken to and learns to respond in the tribal language, having previously used Spanish in symbolic association with childhood status rather than as a domestic language pure and simple.

In the usual bilingual situation, the childhood language is the tribal language which, right from the start of awareness (i.e. talking), is taken as a symbol of being a member of a particular tribe--e.g. a Hopi; to be a Hopi is to talk Hopi like a Hopi, a competence not ever acquired by anyone who learns Hopi after childhood, according to the Hopi. But the usual bilingual situation--the type in which the tribal language is learned before English or Spanish--appears in very many subtypes. These many subtypes are not bewildering in complexity; they are simply not investigated so far. They are remarked upon in passing by investigators who are either concerned primarily with structuralizing the tribal language, or else are concerned with the culture of the people. In the actual practice of cultural anthropologists the motto that 'language is part of culture' is taken to mean that language is that part of culture which should be properly investigated by linguists. It is observed in passing (rather than as a problem to be investigated as such) that one subtype of the usual bilingual type often shifts to another within a generation--from a generation in which both parents are monolingual (so that the children going to school become the first bilinguals of the tribe, except for a low number of interpretors), to a generation in which only one parent, as the father, is bilingual (so that the growing child may remember hearing his second language from his father's visitors before learning the second language at school), to a generation in which both parents are bilingual (but with the tribal language being used still as the only domestic language).

The last subtype mentioned may well be conducive to what we have called expanded Hopi; there exist other instances that could be studied from this point of view. The bilingual Hopi parents speak Hopi at home, but Hopi flooded with English which is spoken in the grammatical frame of Hopi rather than English. Such expanded Hopi is used in certain domains--gossip and the like--that are not concerned with preparation for rituals. Conservations about the latter are not in expanded Hopi; and serious subjects in general are discussed in pure Hopi. The English intrusion in expanded Hopi is ephemeral, and domain-restricted, and not to be confused with genuine loans. The latter are often supposed by the Hopi to have been created by their forebears without a donor--e.g. mɨrɨ donkey, actually borrowed from Spanish burro donkey. But in expanded Hopi, the English constituents are clearly recognized as such--e.g. iron-lawɨ is recgonized as a compound of English iron and Hopi -lawɨ to do. Speakers of expanded Hopi know the pure Hopi morpheme which may be translated to iron.

If one is willing to distinguish an expanded language from genuine loans in a language, then it is possible to say that American Indian languages in Anglo America have borrowed only a negligible number of words from English or Spanish. A seeming exception is the case of those Indian languages in California which borrowed more from Spanish than from English; but this supports our thesis, for California was once part of Latin America. A neat contrast of the difference in lexical response to loans from Spanish in Anglo America (by the Chiricahua Apache), and in Latin America (by the Yaqui refugees from Sonora) is typical of our whole sample--the Chiricahua Apache borrowed 17 words from Spanish after 400 years of contact with Spanish speakers (according to a careful count made by Harry Hoijer); Yaqui is lexically more or less one-fourth Spanish (according to various text-counts which show more Spanish appearing in texts concerned with some topics than with others).

The generalization already made is often encountered, as is the usual explanation: because Indians in Latin America were--from the very first contact days--intermarried with Spanish and Portuguese speakers, their languages were flooded with loans from these Romance languages; while Indians in Anglo America do not characteristically intermarry with Anglo-Americans, and neither do they borrow heavily from English. The difficulty with this explanation is that French speakers in eastern Canada did in fact intermarry with Algonquian Indians whose languages were not in consequence flooded with French loans. Either a new or a revised explanation is needed to account for the general lexical hospitality of American Indian languages in Latin America, and the lack of such lexical hospitality in Anglo America.

Class stratification is not associated in Anglo America with the monolingual retention of an Indian language, or with bilingual proficiency, or with complete shift from the aboriginal language to English or French. But in parts of Latin America, as in central Mexico, the monolingual use of one language or the other, or bilingualism, does serve as an index of economic class affiliation. The lowest classes in the economic scale are monolingual, speaking only an Indian language. The middle classes in the economic scale are bilingual in an Indian language and Spanish. Upper middle classes are monolingual in Spanish. Elite classes, which may also be the most prosperous, including individuals engaged in the professions, tend to be bilingual in Spanish and English--but such bilinguals are not limited to the elite classes.

There may be a generally greater attachment to the spirit of egalitarianism in the cultures of Anglo America than in those of Latin America. This may explain the virtual absence of recognition by Indians of substandard dialects in Anglo America where there is an awareness of dialects--but of horizontal dialects, not vertical dialects. It also suggests that since second language learning is not an index of class affiliation (certainly not in the class-less societies of North America), there would be no symbolic prestige attached to reshaping one's mother tongue in ways suggestive of the second language (English). Such symbolic prestige might be invoked to explain the extensive phonological and grammatical penetration by Spanish in Chontal of

Oaxaca, for example.

A general difference in modern Native American language situations, North and South, is that attempts in the former at writing native languages turn out to be short-lived, as in the case of the famous Cherokee syllabary (which in alphabetic type and in size of inventory is the same as the recently deciphered Mycenean Linear B); another example of ephemeral writing is the publication of a newspaper in Shawnee for a couple of years; and examples could be multiplied. The Bureau of Indian Affairs sponsored a Navaho news sheet which began, a few decades ago, in Navaho without English; but so many Navaho are more at home in reading English than in reading Navaho that the news sheet is now printed in English for some topics and in Navaho for others. American Indians in Anglo America today do not exceed 100,000speakers for any one language (Navaho); characteristically preliterate in their native language, they are increasingly literate in their second language (English). In contrast, tribal languages in Latin America are spoken by many more individuals in the general case; and such languages are often written. The development of orthography and literature by government personnel, linguists and missionaries elevates the native language--that is, places it in the same general class as Spanish once it becomes a written language--and at the same time facilitates the acquisition of writing and reading in Spanish. Where Indians in Latin America are preliterate but bilingual, they are apt to be preliterate both in Spanish and their native language. The possible influence of the tradition of Mesoamerican pre-conquest writing is difficult to evaluate in this context. Maya glyphs, for example, are being deciphered--in the same sense that Etruscan inscriptions are, but without the success recently achieved for Mycenean Linear B. American Indians are sometimes suprisingly stimulated by revelations of their own past unearthed or unwalled by archeologists--witness the revival of aboriginal pottery manufacture mentioned above for First Mesa Hopi.

Before European contact days, cultures which gave noticeable emphasis to territorial expansion, as the Ojibwa in North America, and as the Aztec in the Valley of Mexico (and beyond), and as the Inca of the Peruvian highlands (and beyond), were associated with one or more languages that functioned as lingua francas, just as European languages have functioned as lingua francas for Indians ever since the conquest or shortly after contact days.(But Guarani and Quechua and Aymara in South America appear to coexist with Spanish and Portuguese as on-going lingua francas--in contrast to the various Maya languages and Aztec languages in Mesoamerica, which are on-going, to be sure, but more often as tribal languages than as lingua francas.)

Guarani is a special case, at least Guarani as spoken in Paraguay. As a nation, Paraguay is unique in the New World in valuing an American Indian language higher than the European language (Spanish) which is used in government and in schools--but Guarani is spoken beyond the political boundaries of Paraguay. In the documented history of the last few centuries, Guarani is consistently opposed to Spanish and Portuguese as a symbol of national character, and of unification in times of war (e.g. in the Guarantic Wars after the Portuguese invasion, and in the recent war against Bolivia). The stereotype often read that Spanish and Guarani have equal importance in Paraguay, with complete bilingualism, is so formulated because many writers wish their readers to understand that Paraguay is not an Indian country--according to José Pedro Rona, in the 1964 UCLA Socio-linguistics Conference, who concludes:

that because Spanish is spoken by less than half of the population of Paraguay, the nation should not be characterized as having general bilingualism but rather as being a Guarani-speaking nation;

that Paraguayans are enormously proud of having Guarani as their national language, and hopeful that it may grow into a mature literary language, with Spanish remaining a second language.

From this, one would suppose that Guarani might well be expected to gain speakers. Quechua is definitely reported to be gaining speakers. Many languages in Latin America are maintaining the same number of speakers--e.g. the Mixteco of Mexico who are reluctant to learn a second language; when they do learn Spanish, they often speak Spanish exclusively; but the increase in population offsets the number of speakers who desert Mixteco for Spanish.

American Indian languages in Anglo America are perhaps not maintaining the same number of speakers, despite a general increase in population. In the general case, the attitude is one of deep satisfaction with the possession of a tribal language, coupled with a desire to learn a little English and to have one's children have complete competence in English to enable them to go beyond elementary schooling. The children of today's speakers of American Indian languages who have received higher education may well go to universities in the next generation to study the languages spoken by their grandparents, just as present day students at the University of Hawaii, including Polynesians, learn Hawaiian as a second language.

EXTINCTION OF AMERICAN INDIAN LANGUAGES BEFORE AND AFTER CONTACT PERIODS

1.2. We begin with an unanswerable question: was there more than trivial linguistic extinction before contact periods with Europeans? There is no question about the extinction of many languages after the contact periods. On landing at Plymouth, the Pilgrims, in Paul Radin's grim view, first fell upon their knees and then upon the necks of the Indians. After King Philip's War, many of the coastal tribes removed themselves to live with interior Algonquian tribes. There are some Algonquian Indians still living along the New England coast, as at Martha's Vineyard and Old Town, Maine; but except for a few older Penobscot, all speak English. Some Algonquians found along the middle Atlantic coast withdrew over the Appalachians, and now speak Shawnee and Delaware in Oklahoma. But Iroquois speakers remain in New York State; some have recently settled in Brooklyn where they specialize in the construction of tall buildings without fear of height; others remain in the Carolinas (Cherokee). And some Muskogean speakers remain in Florida (Seminoles). But most aboriginal languages of the Atlantic coast are extinct, just as most languages of the California coast became extinct, while languages in the valleys and mountains and deserts of California continued to be spoken. Spanish expansion in California and Anglo-American expansion on the Atlantic coast contributed to this extinction of American Indian languages. What other cultural factors contribute to language loss remains to be investigated; in a paper called American Indian Languages Still Spoken, it was pointed out that more than half of the native American languages north of Mexico are still spoken; less is known of the fate of Indian languages in Latin America, but surely most are still spoken. Drastic attempts to contain recalcitrant societies, as Kit Carson's scorched earth policy in respect to the Navaho of the last century, or the numerous massacres of which anthropologists have recorded some eye-witness accounts, as the massacre of Tübatulabal who were lured into conference with ranchers, had an immediate effect of encouraging the use of the native language and discouraging the use of the white man's language as a second language. The native language as a symbol of a particular tribal affiliation--e.g. of being a Hopi and not just an Indian--is conducive to continuation of tribal languages. Conversely, what is most destructive may well be territorial expansion of a European language whose speakers have greater prestige in culture than those who speak an Indian language. In anthropological literature, a fundamental distinction is made between prestige and power involved in the confrontation of Europeans and American Indians, on the one hand, and what Kroeber called neighbor ethnography--the knowledge and interest of one American Indian culture in reference to other known native cultures (the cultural universe).

The time span--between the period when Paleo Indians first entered the New World and the period when history began being documented by Europeans in the contact periods--is much longer, of course, than the time span since the contact periods. Once all the American Indian languages spoken at contact periods are enumerated (and classified according to conservatively reconstructed language families), it will be possible to offer a reasonable estimate of how many languages were spoken in earlier periods before written history--scores rather than hundreds of different languages. Consider two widely separated groups of languages known in the historic period--Eskimo and Uto-Aztecan. Since more than two dozen languages are known to be related in the Uto-Aztecan family, and exactly four languages are similarly related in the Eskimo-Aleut family, the total for these two groups is about thirty languages in the historic period--roughly speaking, one tenth of all native American languages north of Mexico (circa 300, altogether). If our restricted sample of two language families gives thirty languages for the historic period, how many languages representative of this sample were spoken in the protohistoric period? The answer might be two separate languages, namely Proto-Uto-Aztecan and Proto Eskimo-Aleut. These two parental languages might well have differentiated--the first from an earlier period (a few millennia ago) into the two dozen daughter languages spoken today (and these offer the only basis for reconstructions in the Uto-Aztecan family); the second from a less early period (a millennium or two ago) into the four daughter languages spoken today in the Eskimo-Aleut family.

This answer is a reasonable way of inferring history before written history only under the assumption that there was no wholesale extinction of languages in protohistoric and prehistoric times--as we know there was in historic times. This assumption has been questioned by Sydney M. Lamb at the 1962 Congress of Americanists(the XXXVth), now published (Mexico, 1964); Lamb is concerned with languages which do not survive in the form of daughter languages to be studied and reconstructed in the historical present: '...the number of such languages, i.e., those which became extinct even before the arrival of Europeans, is surprisingly high.' (p. 457).

In support of this counter assumption, analogies have to be drawn between what universally develops in languages of the world--for example, that a proto language will differentiate into dialects and that the dialects, if not in leveling contact, will further differentiate into separate languages; but not, for example, that a language or groups of languages will necessarily become extinct since languages, unlike living organisms, are not mortal--that is to say, language extinction is possible but not universal.

Two kinds of direct evidence exist for non-trivial language extinction. In one kind, written records attest that a language of a certain place was formerly spoken but is not spoken today (e.g. Etruscan in Italy; Hittite, Akkadian, Sumerian and others in Anatolia; Tocharian in Central Asia; the language or languages of Mahendjo-Daro and Harappa in West Pakistan). No such direct evidence exists in the New World; where pre-Columbian written records are preserved (Mesoamerica), the languages recorded are still spoken today. In the second kind of language extinction, the investigator works with a language in his youth, as with Manx on the Isle of Man, or with Tübatulabal in California, but knows there is little point in returning for further investigation because all speakers of the language were already old when he was young. Replacive bilingualism is fait accompli when adults only are bilingual; when the monolingual children have already shifted to the second language. This second kind of direct evidence can be observed and recorded in the historic period of contact with American Indian languages (but not in the preceding protohistoric and prehistoric periods).

Occurring in the historic period, though possibly stimulated (in the sense of stimulus-diffusion) by examples of shifts from aboriginal languages to European languages, definite instances are found of shifts from one aboriginal language to another. Lamb cites one such instance. He begins with what we would call a contemporary sub-branch within the Uto-Aztecan family (Numic) which, in protohistoric times, is supposed to have been a single language occupying a small part of the area in which the Numic daughter languages were observed to have been spoken in the contact period; the area not formerly occupied by the single Numic language is called the unaccounted-for area (irrespective of whether it was uninhabited, or occupied by other languages). But on second thought, it seems that the unaccounted-for area (whether of the parental language of the Numic sub-branch or the earlier parental language of the whole family, called Proto Uto-Aztecan) was really occupied by other languages: "It won't do to have the previous languages of a large unaccounted-for area moving elsewhere to displace other languages which, in turn, move to still another territory, because sooner or later we run into the ocean. In other words there is a limit to the amount of inhabited area, which means that territorial expansion and its resulting diversification must ordinarily be accompanied, on the average, by a roughly corresponding amount of linguistic extinction." (pp. 458-9).

A specific example is given of the principle that "It is only necessary for a community to gradually shift from their former language to the use of a new one, because of prestige factors or as a very gradual process resulting from intermarriage with a neighboring group, or by the adoption of the language of a conqueror." (pp. 459- 60). The specific example concerns the fragment of a language called Giamina by Kroeber who classified it as intermediate between Tübatulabal of the Sierra Nevada Mountains and the Luiseño sub-branch of languages in Southwestern California perhaps because Giamina was located geographically between the Tubatulabal and the Luiseño. Whatever its subrelationship within Uto-Aztecan, there seems no doubt that this language belonged to this family before it became extinct; and it became extinct not through replacive bilingualism with Spanish or English but with one of the Yokuts languages. (Yokuts is a language family that is centered in the San Joaquin Valley and is flanked by languages of the Uto-Aztecan family.)

Language shift--in this case from one of the Uto-Aztecan languages to one of the Yokuts languages--is said by Lamb to be a response to one or more of three conditions (pp. 459-60, cited above):

(1) The prestige factor; this will probably be operative mainly at

the border between two culture areas, since the more affluent of the two (as the one occupied by Yokuts languages) is apt to enjoy more prestige than the one in which greater effort is required to gather and hunt for food (as the mountain and basin area to the east of the Yokuts, where most Uto-Aztecan languages are spoken). Where two different languages are spoken in the same culture area, in the egalitarian parts of native America, one society in one culture area does not in general enjoy greater prestige than another. And at border or buffer regions between a culture area of relative affluence and a culture area of relative poverty, another factor is conducive to language shift, namely:

(2) Extensive intermarriage between two cultures separated by a language barrier; ethnographies of American Indian tribes have of course been written in historic times and so may not rightly mirror earlier periods. But so far as is known from them, extensive intermarriage is rare except where a European language serves as a lingua franca to bridge the language barrier. In general, native languages were not used as lingua francas. Ojibwa was, but briefly--between the time that Europeans stimulated Indians to hunt and trap fur-bearing animals in the Eastern Woodlands, and western expansion.

(3) Pre-European conquest is widely reported from observations and in traditions--from the Eastern Woodlands, as in the League of the Iroquois which admitted or 'adopted' some Algonquian tribes; from Toltec and Aztec in Mesoamerica; and from the Inca Empire of South America. But

in such aboriginal conquest, the language of the conquered was generally retained, and the language of the conqueror was not adopted, except occasionally as a second language of the non-replacive bilingual type, though it is possible that Quechua and Aymara may have replaced some other languages.

The evidence for wholesale extinction of languages in native America before European influence is surprisingly weak. Nor is it possible to extrapolate backwards from the attested extinction of American Indian languages in the historic period to the preceding protohistoric and prehistoric periods, since language extinction is a response to cultural situations which changed relevantly with the advent of Europeans in the New World.

In archeology (and in historical anthropological literature generally), protohistoric cultures are said to be cultures as they appeared just before first contact with Europeans, but without the slightest European influence. European influence sometimes preceded actual contact with people from Europe; that is, tangible assets from Europe diffused to some tribes before Europeans reached the tribes, as in the case of the Plains Indians who borrowed the horse before they met Europeans, and had by that time already adapted their protohistoric tepee-travois complex to the European horse. But in protohistoric times it was, of course, the dog rather than the horse that pulled the travois.

In archeology the protohistoric period extends back in time until another preceding strata can be identified and specified, often in a matter of centuries rather than millennia. A less shallow protohistoric period would be useful for linguistic perspective, and such usuage is proposed here. Let us say that in the protohistoric periods the different parent languages differentiated until the contact periods when the daughter languages of each were encountered by Europeans. We speak of contact periods in the plural, for they took place at different times in different parts of the New World. Thus, along the Atlantic Coast the first continuing contacts with Europeans occurred in the 17th century; this was a century after the conquest of Mexico, but a century or two before contact with American Indians in the Northern Plains and elsewhere. So, also, in the proposed linguistic perspective, we speak of protohistoric periods in the plural, for they would vary according to the time it took to develop the daughter languages in different language families.

In the case of the Eskimo-Aleut family, the protohistoric period might be a couple of millennia--assuming it took that long to differentiate the four daughter languages from a single parental Proto Eskimo-Aleut language. It might also have taken about that long to differentiate the four daughter languages of the Kiowa-Tanoan family from a single Proto Kiowa-Tanoan language; hence the protohistoric periods for the Eskimo-Aleut family and the Kiowa-Tanoan family might have run concurrently and for approximately the same length of time, but in widely separated culture areas of the New World--in Arctic America and in the Southwest, respectively. But it would surely have taken longer to differentiate the two dozen widely dispersed and extraordinarily divergent daughter languages in the Uto-Aztecan family from a single Uto-Aztecan parent language; hence the protohistoric period for the Uto-Aztecan family might well have begun a millennium or two earlier than that of the Kiowa-Tanoan language family some of whose daughter languages (Tiwa, Tewa and Towa) were found in the Southwest culture area in which some of the daughter languages of the Uto-Aztecan family were also found (Hopi, Pima-Papago, and others). Thus, the onset of the protohistoric periods of the different language families in native America might vary, but all would run concurrently for the last couple of millennia before the contact periods when the daughter languages of each language family were encountered.

One can take the American protohistoric era as pivotal in linguistic perspective. It was followed by an era of contacts with European languages during which language shifts were characteristic, with the resultant extinction of many aboriginal languages through a transitional period of replacive bilingualism. (There are only a few instances of further differentiation into new languages in the contact era, as Chinook Jargon; and perhaps all instances of the development of new languages in the past few centuries since Europeans arrived in the New World are instances of pidgin-creoles.) The protohistoric era is said to be pivotal because it was followed by the contact era but preceded by an era which we might call prehistoric, extending from the arrival of Paleo Indians in the New World to the protohistoric period.

For purposes of linguistic perspective, it is useful to distinguish between the prehistoric era and the protohistoric era. Each of these two successive eras have to be reconstructed from American Indian languages still spoken, for that is the only basis of direct information available to us. But the reconstruction (by comparative method linguistics) is systematic and detailed for each structural subsystem of proto languages in the protohistoric era; it is based directly on abundant information obtainable from languages spoken today. On the other hand, the reconstruction (in phylum linguistics) is illustrative and restricted to a relatively small set of cognates and typological samenesses which point to an earlier phylum parent language in the prehistoric era; it is based indirectly on sparse information.

If the data used in comparison of a group of languages turn out, on later research, to be plentiful rather than sparse, the interpretation changes: the languages in the group are regarded as members of a family rather than of a phylum. For example, the three Tanoan languages (Tiwa, Tewa, Towa) were formerly thought to constitute one language family that was remotely related to a Plains Indian language called Kiowa. Once Kiowa was structuralized, however, it turned out that it made the same distinctions in vowel type that the Tanoan languages made (front-back contrasts at three tongue heights), and shared so many cognates with the Tanoan languages that the sound system of Kiowa-Tanoan could be reconstructed in detail. In short, Kiowa turned out to be an immediate member of the Kiowa-Tanoan family, rather than a language remotely related to the Tanoan languages in phylum linguistics. This family, in turn, was shown by Whorf and Trager to be related to the Uto-Aztecan family by producing a set of cognates which the two language families share.

phylum linguistics.

Precisely because Kiowa-Tanoan and Uto-Aztecan belong to one phylum rather than to one language family, it is expected that not enough cognates will turn up to permit a reconstruction of the phylum parent language (Aztecan-Tanoan) in the same detail that comparative method linguistics permits for the two separate language family parents. Suppose, however, that fuller investigation of the lexical resources of Kiowa-Tanoan languages and Uto-Aztecan languages brought to light sufficient cognates to suggest that the expectation, based on our present knowledge, were false. In that event, the newer knowledge would be taken as evidence to postulate a new or rather expanded language family (Kiowa-Tanoan-Uto-Aztecan). When a language family is postulated, it is susceptible to attestation (proof) in comparative method reconstructions. If the postulated language family is not demonstrated, however, the controversial conclusion of nonrelationship among the groups of languages is not a necessary one. An alternative and less controversial conclusion views the more remote relationship to be illustrable in phylum linguistics.

This could be said more simply: closely related languages in the usually accepted sense of a language family (as Indo-European, or Semitic, or Dravidian, or Uralic in the Old World) may be reconstructed in detail approximating the detail of the structural analysis of a given daughter [illegible] ages differentiated from parent languages in the protohistoric era of the New World. Remotely related languages in linguistic phyla cannot be reconstructed in great detail, but are postulated on the sparser evidence of cognates which are characteristically insufficient to attest all the vowel or consonant contrasts made in the parent languages of the postulated phyla which were spoken in the prehistoric era.

These two pre-European eras--protohistoric and prehistoric--were times of increasing multilingualism in native America; there is little evidence to suggest any reduction of languages except in the trivial sense that as two or more languages differentiated from a parent language in successive generations, the parent language of former generations was no longer spoken. But in each successive split in such differentiation, the sum of all daughter languages greatly outnumbered the sum of all preceding parent languages, until the contact periods with European languages and cultures, when increasing multilingualism was replaced by wholesale language extinction.

PALEO INDIANS

1.3. More is known about the Paleo Indians themselves than about their languages. Three successive generations of Americanists in the 20th century have produced serious proponents of the view that the languages of the Paleo Indians are inaccessible to us today. Sapir initiated the effective challenge to this nihilistic view by suggesting the possibility of reducing half a hundred language families north of Mexico to half a dozen phyla. After a brief flurry of interest, the matter was dropped. Later, when the American Ethnological Society published a wall map reflecting Sapir's phyla, the general reaction of Americanists was that it was a mistake to make the six phyla so vivid as to appear more than a hypothesis incapable of proof. There the matter rested until Swadesh invented glottochronology, which gave a new impetus to work in phylum linguistics. And it now appears that the language phyla of native America are genuinely relevant to Paleo Indians in the prehistoric era; language families are relevant to American Indians in the protohistoric era.

Paleo Indian is the term used by paleoanthropologists for the forebears of American Indians who migrated to the New World from the Old. Harold E. Driver is referring to descendants of the Paleo Indians when he contrasts the general sameness in the appearance of modern Indians and the great differences in their languages; our impression is that all parts of the modern world show linguistic diversity equal to native America except Europe and Asia north of a line from the Caucasus to Yunnan in East Asia; we would accordingly attribute a lower percentage of the world's languages to native America than is given in The Americas on the Eve of Discovery (1964, p. 3):

"It is with respect to physical type that Indians show the most uniformity. The ancestors of 99 percent of the Indians migrated to the Americas from Asia by way of Bering Strait and Alaska. Because there were no previous inhabitants with whom to mix, and the time, twenty thousand years or so, was too short for climatic or other environmental factors to produce marked changes in physique, Indians from Alaska to Tierra del Fuego are all grouped into the American Indian subdivision of the Asian (Mongoloid) major race. This does not mean that there are no significant biological differences from one Indian tribe to another, however. The most finespun classification of man's physique for the entire world gives about eighty varieties of man, and about 10 per cent of these are Indians. In short, the variation in Indian physique is only about 10 per cent of that in the entire world, whereas in numbers of languages it comes to about 40 per cent."

We cannot estimate what percentage of the world's languages were spoken by the Paleo Indians when they began migrating to the New World twenty or twenty-five thousand years ago. Paleoanthropologists account for the late peopling of the Americas by the fact that early man had to develop material culture relevant to survival in the far north (warm clothing and warm shelters) before moving into colder climates than tropical Africa where the earliest human beings were found to have lived a million years ago. But paleoanthropologists fail to account for the development of human languages or linguistic diversity of early man, or account for them inadequately, as Charles F. Hockett and Robert Ascher have pointed out and remedied (The Human Revolution, Current Anthropology 5.135-68, 1964, fn. 2 and p. 135):

> "A revolution is a relatively sudden set of changes that yield a state of affairs from which a return to the situation just before the revolution is virtually impossible. This seems to be the sense of the word intended by V. Gordon Childe (1936) when he speaks of the 'Neolithic Revolution' and of the 'Urban Revolution'. But these two revolutions were experienced by our fully human ancestors. The second could not have occurred had it not been for the first. The first could not have taken place had it not been for an even earlier extremely drastic set of changes that turned nonhumans into humans. These drastic changes, as we shall see, may have required a good many millions of years; yet they can validly be regarded as 'sudden' in view of the tens of millions of years of mammalian history that preceded them."

At the relatively late date that the Paleo Indians arrived in the New World, they were, of course, fully developed as humans, and their languages were fully developed as human languages. Nor did any linguistic revolution take place in the New World, if an essential feature of such a revolution is to be taken as a change from a micro-multilingual state of affairs (relatively few languages in native America in prehistoric times) to a macro-multilingual state of affairs (great proliferation of separate languages differentiated in protohistoric times) from which a return to the situation just before the revolution is impossible. A return from macro-multilingualism in modern native America (equal to that of any part of the world) to micro-multilingualism (existing in the modern world only in Europe and Asia north of the Caucassus-Yunnan line) seems quite possible. The evidence that a reversal from increasing to decreasing multilingualism began with the first contact periods has already been referred to (1.2., above), as has the evidence that the return to micro-multilingualism is continuing today (1.1., above); a survey of American Indian language extinction through language shift has recently been published by Wallace L. Chafe (IJAL 28. 162-71).

But language extinction is not always a consequence of language shift. A language will die out, of course, if all the speakers of that language die. Instances cited of the last speaker of a language sometimes make it seem that all the survivor's distant relatives have long since been dead and that now all members of his immediate family, except himself, are dead. In the general case, surely, the sole survivor is a conservative member of a group whose other members have merely shifted to another language, without fatality. Thus, there are fewer separate American Indian languages spoken in the second half of the 20th century than in the first half, but many more American Indians. Though the general case represents increase in population (at least for the last and the present prosperous generations), beside reduction in number of separate languages --i.e. language extinction through language shift--there are rare instances of all the speakers of an American Indian language dying out. The most celebrated of such is the case of Ishi, the sole surviving speaker of a California Indian language and also the sole survivor of the tribe that spoke his language (Yahi). Ishi was monolingual when he was captured at a slaughter house north of San Francisco where he was gathering rather hunting for meat. He was brought to live in an anthropology museum and his language was studied by anthropological linguists, including Edward Sapir who had previously studied Yana, closely related to Ishi's language. Cognates shared by the two languages facilitated analysis of Ishi's language, and accelerated teaching Ishi to speak English. He was then able to tell the anthropologists of how he had lived with his sister and mother until they died, and of how he remained with no one to talk to from then on until he became bilingual (English-Yahi).

Though such cases of a language's extinction by extinction of its speakers are rarely encountered in the contact era, it may have been more common than language shift among the small tribes or bands of Paleo Indians who migrated to the New World.

This may indeed have been the fate of all pre-Paleo Indians whose arrival is sometimes dated as early as forty thousand years ago. None of their bones have been found, and what remains at their camp sites includes only choppers and scrapers (chipped stone tools) which must have been multipurpose (for weapons and for butchering and skinning animals, and for scraping hides); they did not produce specialized tools, as chipped spear points. Despite their minimum development of culture, and their extraordinarily sparse population, they were not inhibited in their migrations, which extended to the southernmost part of South America. It is not known whether there was any continuum between them and Paleo Indians.

The Paleo Indians who began coming to the New World as early as twenty-five thousand years ago came with a culture which included specialized tools (as sharp spear points, and dart points chipped from stone), as well as multipurpose tools. There is indirect evidence that their population was greater, and direct evidence that their material culture was more specialized than their predecessor's. Both factors would increase chances of societal and hence language survival. Adequately developed material culture enabled Paleo Indians to cope with the animals they encountered in the prehistoric era; they became predators of animals much larger than themselves, as the mammoth (larger than modern elephants), or more fleet-footed than themselves, as wild horses which, like the mammoth, became extinct. This is not conjecture, but attested in archeology. However, archeological evidence cannot tell us how frequently societal and language extinction took place in prehistoric times; yet there is no doubt that the Paleo Indians--unlike some of the animals they hunted--survived until today when they are known as American Indians.

Archeological and paleoanthropological evidence points to the routes followed by the Paleo Indians in going from northern North America to southern South America, and the time elapsed in this bi-continental migration. For example, the general direction of Paleo Indian migration was through the interior of Alaska and then southward in Canada, mostly on the eastern slope (though the last migrants followed the western slope or corridor) of the Rockies into the United States and Central American states. From interior North America, the drift was to both coasts, with two main subsequent drifts to South America, one down the Atlantic, the other down the Pacific coast. The main orientation of migrations was on a north-south axis, but movements on an east-west axis have also been postulated, as well as back-tracking on both axes. Assuming the complex of Paleo Indian migrations to have begun 25,000 years ago, it took 16,000 years for the first arrivals to reach southern South America. There is evidence that the Straits of Magellan were reached between 9000 B.C. and 11000 B.C. Whether any human beings from Oceania reached the west coast is no longer controverted; the evidence shows that some did, but in protohistoric rather than in prehistoric times. It is possible, as Greenman suggests, that though most Paleo Indians were men out of Asia, some migrants crossed the Atlantic (during the alternating glaciation periods of paleolithic Europe) and reached the New World effectively; but this is in controversy.

The language situation in prehistoric times is stateable (if it is stateable at all) in terms of language phyla which are discussed below (1.6). It is necessary to extrapolate backwards (from the onset of protohistoric periods, when such parental languages as Proto Uto-Aztecan and the parental Kiowa-Tanoan language began differentiating into the daughter languages spoken today)--backwards to the onset of the prehistoric periods when the phylum parent languages, such as Macro-Penutian, began differentiating into the subsequent parent languages of the historical language families, as Proto Uto-Aztecan and Proto Kiowa-Tanoan, already mentioned.

The question arises as to whether, in a period of twenty five thousand years, the proto phylum languages of the Paleo Indians, as Macro-Penutian, were in any way simpler than modern American Indian languages, either in sound systems or in morpho-syntax. In given pairs of closely related languages spoken by bilinguals in Ferguson's example of diglossia, the upper language (as Standard French in Haiti) makes more sound distinctions and includes more affixes than the lower language (French Creole). Would it be expectable that the languages spoken at the onset of the protohistoric period in native America (which we can reconstruct in great detail) made more sound distinctions and included more affixes than the languages spoken by the Paleo Indians at the onset of the prehistoric period (which we cannot reconstruct in detail)?

The question at bottom is whether there is an irreversible development from a simpler to a more complex state of affairs in linguistics; and this question is unanswerable for the languages of the Paleo Indians. It is answerable for cultural development. The Old World had not yet had its Neolithic Revolution twenty five thousand years ago; hence man migrating from the Old World to the New, had to depend for survival on some variant of paleolithic or mesolithic culture. Backtracking of the Paleo Indians, once arrived in America, if it occurred at all, did not go farther back in Asia than the Paleosiberians in northeast Asia; such backtracking did not go as far east as the areas in which the Old World Neolithic Revolution took place. And the Paleo Indians did not develop a neolithic culture in prehistoric times.

In protohistoric times, however, there were a series of Neolithic Revolutions in South America as well as in Mesoamerica; and no anthropologist would controvert Richard S. MacNeish's statement generalizing a specific instance before and after this widespread Revolution (Science 143, 531-ff , 1964): "The ancient high cultures of Mexico and Central America (termed Mesoamerica)...apparently arose independently of any of those in the Old World."

Though different enough to be regarded as historically independent, cultural developments in the Old World and the New were typologically parallel. Paleolithic culture carried over by the migrants included fire, the dog, and the specialized as well as multipurpose tools alluded to above. It is not known how much else the Paleo Indians brought with them; they did not, for example, have the bow and arrow in their earliest migrations, for this does not appear archeologically until the beginning of the Christian era, when it is supposed to have diffused from Asia. Hence some sort of contact seems to have been maintained between men in Asia and men out of Asia at least until the Christian era. But there is no evidence that the development of squashes, beans, gourds, avocados and chile peppers in the New World, beginning nine thousand years ago, was in any way connected with the domestication of quite different plants in the Old World. Some seven thousand years ago Middle American cultures began to domesticate additional food plants as corn (maize) and tepary beans, as well as cotton for spinning thread and weaving cloth. The full inventory of American Indian plants under domestication is as impressive as that of the Old World; that of domesticated animals is not.

Though the Neolithic Revolutions are typologically parallel in the two Worlds in time and in domestication of plants, an Urban Revolution, parallel to that in the Old World, did not start until much later in the New. In fact, the first New World culture to have an Urban Revolution (the Maya), was without cities and without writing or knowledge of metals until the early centuries of our era; at this late date, the Maya developed an alphabet-included logographic type of writing, an accurate calendar, and mathematical sophistication. Some of these developments, as growth of cities, are paralleled independently in South America; some, as metals, diffused from South America; but the alphabet-included logographic type of writing was restricted to Mesoamerica.

City life in the Urban Revolution can come about only after the economic base of the Neolithic Revolution permits a denser population than that possible in pre-neolithic or paleolithic times. This leads, in conjectural anthropology, to an inadequate oversimplification, often voiced in introductory courses and occasionally found in textbooks--most recently in Melville Jacobs' Pattern in Cultural Anthropology (1964, pp. 91-2):

"The language history of the past 7000 or 8000 years [since the onset of the neolithic in general--roughly equivalent to our protohistoric] is in one momentous respect an unrecorded story of progressive diminution in the numbers of languages. The Neolithic Revolution, with its economic and populational explosions, destroyed much of the linguistic creativity of Paleolithic times [roughly equivalent to our prehistoric era] because of progressive eradication of the majority of the world's languages."

As stated in the context of a closely similar view espoused by Lamb (1.2. above), there is surprisingly little evidence for language shift and resultant reduction of many separate languages in the protohistoric periods--the times when the daughter languages which we study today were differentiated from parent languages (hence the era when the number of separate languages increased rather than decreased in number).

The dubious assumption in its most general form--that dense populations permit only micro-multilingualism, while sparse populations alone are conducive to the proliferation of many separate languages--encounters many counter-examples. At the time of contact, four separate though related languages were spoken in Arctic America, at one demographic extreme (sparseness of population), and then as now, four other separate though related languages were spoken in Java, at the other demographic extreme (density of population). The subcontinent of India is celebrated both for the density of its population and the proliferation of its languages. Africa is much more densely populated than native America, but has about the same number of languages, area for area.

There is possibly no greater linguistic diversity in New Guinea than there was in a comparable area of western America, centering in California--but the latter was paleolithic in culture, and New Guinea was neolithic. For native America as a whole, it is not literally possible to equate micro-multingualism (reduction in numbers of languages) to neolithic culture, and macro-multingualism (proliferation in numbers of languages) to paleolithic culture because these two 'stages' of cultures overlapped in the New World--indeed, they coexisted throughout most of what we have identified as the protohistoric era. In one of the succeeding contact periods tribes with paleolithic culture speaking Siouan and Algonquian and Caddoan languages hunted in country adjacent to agricultural or village Indians (Hidatsa and Mandan, both Siouan, and the Caddoan Arikara). The latter, the neolithic cultures, would not only plant corn-beans-and squash, but also hunt and gather after the fashion of their paleolithic neighbors. According to their neighbor ethnography, the same cultural universe was shared by neolithic and paleolithic peoples in the Northern Plains.

All Paleo Indians in the prehistoric era were paleolithic, and their populations were sparser than the populations in the following protohistoric era. But there is no evidence to suggest that more languages were spoken by the Paleo Indians at the onset of the prehistoric than at the onset of the protohistoric era. The latter was represented by more languages, if the lower number of language phyla in the prehistoric era than the number of language families in the protohistoric period is taken as evidence (1.6, below). And what other evidence is there?

Whether any cultures in the prehistoric era were in any sense simpler than some cultures which developed in the protohistoric era is not in question; since the neolithic innovations arose in the protohistoric era. Whether a parental phylum language such as Macro-Penutian was in any sense simpler than one of the daughter languages, as Proto Uto-Aztecan, cannot be tested by the reconstructive method, for lack of sufficient remaining data. However, since the cultures encountered in contact periods include some which may be taken as traces of earlier simpler cultures; and since none of the languages then encountered show traces of an earlier simpler linguistic structure, it is generally assumed in anthropology that the languages of the first Paleo Indians were as fully developed as the languages spoken by modern American Indians.

In a sparsely inhabited paleolithic world, Paleo Indians in general were Paleo Siberians before crossing on foot what is now Bering Strait. They could have moved over vast distances with relative security in their role as predators of all other animals, while none were predators of them. They were certainly predators of subhuman animals, including some that were larger, or faster, or fiercer than themselves, but the animals lacked the fierceness that takes technology to perfect. No Paleo Indians were predators of other humans, even though sharp spear points and darts provided a relevantly effective technology for warfare. When paleolithic predator met paleolithic predator--whether still in Asia or later in the New World--he did not pause to test dialect distance, nor did he wage war, for evidence of warfare in the evolutionary sequence of culture does not appear until much later, in Neolithic times. When one band of Paleo Indians encountered another, each would shy off from the other; occasional exchange or trade was by silent barter.

When the first bands of paleolithic predators moved into the New World, they had no way of knowing that others had not preceded them. The last bands of such predators to arrive, as the first, were experienced in encountering and avoiding close contact with other humans in Paleo Siberia. In a culture which practiced predation in respect to animals, but avoidance in respect to other groups of humans, the leveling effects of linguistic contact would be lacking. And in the peopling of the New World, this cultural situation was not altered. That is to say, the cultural situation would have been much the same for the last arrival, as the first, since the first bands to arrive were not in any sense 'sooners' (as were the first white settlers of Oklahoma), who equated possession of territory with legal ownership; nor did the first arrivals constitute an elite that impressed itself upon those subsequently arriving with their aristocracy (as in the later Neolithic peopling of Polynesia). It makes little difference in principle, accordingly, whether we account for the peopling of the New World from the first comers to the last, or the last to the first, except that more is known about the last.

There is considerable consensus in paleoanthropology that the last men out of Asia spoke some kind of Eskimo-like languages. And some archeological evidence indicates that the Eskimo did not arrive in Greenland until a thousand years ago. Linguistic evidence shows that throughout the whole vast territory from Greenland westwards in Arctic America to the Kuskokwim River in Alaska, one Eskimo language was spoken without language barrier, from dialect to dialect, despite the fact that there are long uninhabited stretches in this arctic littoral across which there has been no known Eskimo travel in recent years. Hence, the Arctic Eskimo language must have split off and geographically separated from the West Alaska Eskimo language not before the end of the protohistoric period, or else the territorially separated dialects in Arctic America would have had time to differentiate further into separate languages. No language barriers were found by Knud Rasmussen and his Eskimo companions when they journeyed by sled from Greenland to the Kuskokwim River in Alaska.

Indeed, somewhat earlier in the protohistoric period the parental language of the Eskimo- Aleut family had already split off from a prior proto language, and began differentiating into two Eskimo languages (Arctic Eskimo and Kuskokwim Eskimo), not to mention two or at most three Aleut languages which have been less well studied than the Eskimo languages mentioned.

Sapir, in his Time Perspective (and others since), recognized that the speakers of Eskimo-Aleut represented the last linguistically unified people to migrate to the New World. But this genetic unit satisfies our operational definition of a language family(reconstructability in great detail) rather than of a language phylum. Accordingly, it would seem to cast doubt on our generalization that all Paleo Indians arrived in the New World in prehistoric times (times when parental phylum languages were spoken) rather than in protohistoric times (beginning when the proto languages of modern language families were spoken); and likewise it would seem to be an exception to the generalization made by us and others that Sapir reduced the classification of a half hundred language families to a half dozen phyla. Should the generalization be revised to read that Sapir reduced a half-hundred language families to five phyla plus one language family (Eskimo-Aleut)?

Not at all. Though Sapir did literally carry on Powell's Eskimo family without reducing it by combining it with other families set up by Powell into a phylum, Sapir here echoed Powell only because his scope of phylum linguistics was restricted to North America north of Mexico. Had he been not so restricted--had he included the Paleosiberian languages within his scope--he would surely have combined the Eskimo-Aleut family with the language families in the Paleosiberian group--particularly with Chukchi--into one language phylum which might be labeled Eskimo-Paleosiberian. In Languages of the World: Boreo-Oriental Fascicle One, it is pointed out that the speakers of Paleosiberian languages have been thought by some to have returned to northeast Siberia after having crossed Bering Strait. If we are willing to take into consideration the possibility that the Eskimo split from Paleosiberian in Asia, then other splits in other phyla might also have taken place in Asia--when the Paleo Indians were Indians in theoretical prophecy, before the fact.

Thus, if the Na-Dene split took place in Asia, it might be considered in connection with the hypothesis that this American Indian language phylum is related to the Sino-Tibetan macro-phylum. The Dene part of Na-Dene is better known as the Athapaskan family (in which the name for man is dene); the hypenated name of the phylum (Na-Dene) is used when two isolates--Tlingit and Haida--are combined with Athapaskan.

Mary Haas estimates that single languages like Tlingit and Haida--isolates which show no surface relationship to each other or to any language family--constituted at least one third of the total number of American Indian languages in western America, generally, but particularly along the west coast which suffered first from language extinguishing contact with Europeans.

After extensive lexical resources in the daughter languages of a language family are investigated, and after these (e.g. in Athapascan) are compared with the single lexical resources of a language isolate (e.g. Tlingit), it sometimes turns out that a relatively low number of cognates point to a phylum connection (Na-Dene) between the language family (Athapascan) and the language isolate (Tlingit).

But some times not, as in the case of Zuni which Sapir hesitantly placed with two language families (Tanoan and Uto-Aztecan) in a single phylum. The various lexicons of the daughter languages in the two language families included cognates which confirmed Sapir's phylum hypothesis, so far; but the lexicon of the single language isolate (Zuni) did not. One presumptive isolate like Zuni may show no evidence even of the remotest relationship; and another presumptive isolate like Kiowa may turn out, upon further investigation, to be more closely related to a language family (Tanoan) than it was supposed to be on first inspection. Accordingly, the difficult to classify language (Kiowa) has to be reclassified from an isolate language to a daughter language of the renamed language family (Kiowa-Tanoan).

Isolates are difficult to classify because evidence for affiliation with other isolates or with language families in a given hypothetical phylum is--by the very definition of an isolate--restricted to a single lexical base (in contrast to the multiple base provided by daughter languages in a language family). Nevertheless, all isolates are included in one or another of

Sapir's six phyla. And Stanley Newman has at last found supporting evidence for including that most difficult isolate of all (Zuni) in a phylum--in the Penutian phylum. Though this is not quite the phylum in which Sapir placed Zuni, it seems (most recently) possible to combine or expand the phylum in which Sapir placed Zuni (with the Tanoan family and the Uto-Aztecan family) and the phylum in which Newman place Zuni (Penutian); the proposed name for this magnificently expanded phylum is Macro-Penutian.

Speakers of the parental languages of macro-phyla in general could have migrated to the New World; or they themselves could have been Asian forebears of migrants who spoke relatively micro phylum languages and isolate languages when they left Asia to become Paleo Indians. Such alternatives in inferential history exemplify or introduce the seeming paradox of twin problems--the problem of accounting for the language isolates, on the one hand, and the problem of keeping apart one language phylum from another language phylum, or combining two phyla to obtain a macro phylum like Macro Penutian. Both problems bear on the question of whether the Paleo Indians peopled the New World in as many migrations as linguists can reconstruct language phyla today--or more, or less.

So far, there is modern agreement with Sapir's Time Perspective that the very last arrivals in the New World spoke some kind of Eskimo-like language, and that their immediate predecessors spoke some kind of Athapaskan-like language. All phyla beyond these two last phyla are under revision. To list the remaining phyla and say that each was preceded by each, according to the territorial depth in the New World that each occupied in later constituent language families may be possible after consensus is reached on the remaining phyla. In addition to Eskimo-Aleut (or Eskimo-Paleosiberian) and Na-Dene (Athapascan-Sino-Tibetan), the remaining phyla postulated by Sapir were the following four:

Algonkin-Wakashan
Uto-Aztecan-Tanoan-Zuni
Penutian
Hokan-Siouan.

And, of course, had Sapir continued into Latin America, additional phyla would have been listed.

Now to relate these phyla to Paleo Indians peopling the New World, it is necessary to look at on-going research, after Sapir. This research confirms the integrity of only two phyla, as mentioned above; it does not so confirm the remaining four phyla. Instead, it merges some pairs of phyla into a single macro-phylum, and it also reshuffles some language families and language isolates from one of Sapir's phyla to another of Sapir's phyla. The details of such on-going research are summarized below (1.6).

UNIFIED LIST OF NATIVE AMERICAN LANGUAGES NORTH OF MEXICO

1.4. Unlike Africa, there is general agreement on culture areas for native America. Thus, Herskovits' delineation of culture areas does not in general coincide with Murdock's subsequent delineation for Africa. But for the American Indian the culture areas which Wissler recognized in his 1917 book (reflecting the prior practice of museum curators in segregating displays of Eskimo or Arctic culture in one room, of North Pacific Coast in another, of Plains Indian culture in a third, and so on) have been subsequently confirmed or improved by occasional changes that reflect efficient reorganization (e.g. sub-culture areas within macro areas). And this general confirmation is relevantly interpreted by relating the areal data of culture to the areal data of plant cover and animal habitat (ecology) in Kroeber's Culture and Natural Areas of Native North America (1939), and by vastly increasing the factual base of the culture areas in Driver's Indians of North America (1961). These delineations of aboriginal culture areas in our continent have reached relatively high confidence levels; in fact, one is tempted to use them as a frame of reference for listing the languages of Native America.

In the list which follows, reference is made to these culture areas; and also to Sapir's six phyla, already outlined (1.3, above); and also to the revised, recombined and in general enlarged macro phyla with which ongoing comparative research is concerned (1.6, below).

As we pointed out in the Memorial to Alfred L. Kroeber (Kroeber Anthropological Society Papers 25, 1961), only one language family is represented in the macro Arctic Coast culture area (Eskimo-Aleut), but this language family bears remote relationships to language families in the Old World, notably among the Paleo Siberian languages. The best comparisons to date are between the Chukchi-Kamchtkan family located in the Old World (as one family of the Paleo Siberian languages) and the Eskimo-Aleut family located in the New. These comparisons in support of an Asian-American phylum are said to show some morphological agreements beside a few sound correspondences cited by Morris Swadesh (in Prehistoric Man in the New World, 1964, p. 535): "To complete the study, an examination of inflections and word formations was made with respect to the two language families. A large number of general and specific agreements in these matters confirmed the indications of relationship shown by the cognate words."

Phylum affiliations with Paleo Siberian and other languages now spoken in the Old World are discussed in Languages of the World: Boreo-Oriental Fascicle One. We are here concerned only with one language family in this phylum; and with the languages of this family which are all spoken in the New World, and more particularly in the macro Arctic Coast culture area, although speakers of the most widespread language in this family, known as Central-Greenlandic (Trans-arctic Eskimo), are also to be found on the Chukchi Peninsula of Asia.

In the ethnographic present, one group of Trans-arctic Eskimo speakers had as their main subsistence animal the New World reindeer known as the caribou, in the Barren Grounds, northwest of Hudson Bay--a tundra rather than arctic coast region. The other Trans-arctic Eskimo flanking the Barren Ground Eskimo continued living in arctic coast regions, with sea mammals as their main subsistence animals, and with snow houses to the east of Point Barrow, but not in Alaska from Point Barrow west.

In the ethnographic present, accordingly, our single Trans-arctic Eskimo language was spoken in three different subculture areas--an instance of same language in somewhat different culture areas. When Algonquian speakers from the Eastern Sub-arctic or Athapascan speakers from the Western Sub-arctic would visit the Arctic area, they could communicate with the Eskimo only if they learned to speak this Trans-arctic Eskimo language--an instance of different language in different culture area. It is said that the Eskimo never tried to learn Sub-arctic languages.

Besides the widespread Trans-arctic Eskimo, three other separate languages are spoken in the Arctic Coast culture area. One of these is called Kuskokwim Eskimo. As cited from Rasmussen's report, Trans-arctic Eskimo speakers, as they went from east to west across arctic America, could communicate without an interpreter. The first real break in languages is found in Alaska where, Rasmussen says, "The Eskimo from the south and west of the Yukon spoke a dialect differing so considerably from the others that I found it, contary to all previous experience, impossible...without the aid of an interpreter." This separate Kuskokwim Eskimo language was spoken from the Yukon-Kuskokwim Delta to the Alaska Peninsula and beyond to the Copper River--by salmon-eaters who belong to another subculture area, as do the two separate Aleut languages spoken further west on the Alaska Peninsula and on the Aleutian Islands.

Eskimo-Aleut family:

(1) Central-Greenlandic (Trans-arctic Eskimo)
(2) Alaskan Eskimo (Kuskokwim Eskimo)
(3) Eastern Aleut (Unalaskan)
(4) Western Aleut (Atkan, Attuan)

Excluding Aleut, there are 50,000 speakers of the two Eskimo languages:

22,890	in Greenland
11,500	in Canada
15,882	in Alaska
1,100	in USSR.

This is the breakdown given by D. Jenness, whose total for Canada and Alaska alone is 27,382, a figure somewhat higher than that calculated by Sol Tax (25,953).

The two languages called Aleut (perhaps formerly three) are Atkan (Attuan) spoken west of Port Moller into the Aleutian Archipelago, and Unalaskan spoken east of Port Moller; Sol Tax gives 1,009 Aleuts on continental Alaska; Chafe gives 1,200 as total number of present day speakers of Aleut.

The Na-Dene phylum is found entirely within the New World. It consists of one language family (Athapascan), and two language isolates (Tlingit and Haida). Sapir had available at least 300 Athapascan reconstructions obtained from cognates among the Northern, the Pacific Coast, and Southwest Athapascan languages; from these he selected about a hundred for comparison with the two language isolates, Tlingit and Haida (American Anthropologist 17. 534-58, 1915). That is to say, Sapir did not compare the two language isolates directly with each other, nor with the northern Athapascan languages which flank Tlingit and Haida, for fear that any samenesses obtained from comparison of neighboring languages might reflect relatively recent borrowing rather than descent from a very remote phylum parent language (Proto Na-Dene); instead comparisons were made between Sapir's reconstruction of the less remote language family parent language (Proto Athapascan) and the two language isolates. This still does not preclude the possibility of borrowing at an earlier pre-dispersal period when Proto Athapascan speakers may have been donors to Proto Tlingit and Proto Haida languages, but it does guard against accepting as evidence of genetic relationship borrowing in proto-historic times. But diffusion--borrowing at any time of lexical items that are now shared--would still leave unexplained the structural similarity between Athapascan and the two language isolates. And structural similarities were regarded by Sapir as more indicative of genetic relationship than of borrowing. Even the most remote phylum parent language would bear the continued image of its individual form (structure) in currently spoken daughter languages; or, stated in Sapir's words (1921): "Language is probably the most self-contained, the most massively resistant of all social phenomena. It is easier to kill it off than to disintegrate its individual form."

The following list gives a score of separate Athapascan languages still spoken, including now Eyak. In 1930, when Eyak was found to be still spoken in two main villages at the Copper River Delta, Alaska, by some 200 Eyak, it was hoped that its analysis would shed light on and perhaps finally confirm the Na-Dene hypothesis. On-going research by Michael Krauss, however, seems to indicate that Eyak is a divergent member of the Athapascan family rather than a connecting link between this family and Tlingit and Haida. The latter are still classified as language isolates in the Na-Dene phylum; Eyak, once regarded as another language isolate, is now reclassified as a daughter language of Proto Athapascan.

Na-Dene phylum:

Tlingit:	spoken over a considerable area in southeastern Alaska by between one and two thousand people; and by one or two hundred in British Columbia and the Yukon; Swanton minimizes local dialect peculiarities.
Haida:	spoken in two dialects; Skidegate Haida

is spoken on the Queen Charlotte Islands off the coast of British Columbia by fewer than 100 people; Masset Haida is also spoken there as well as on the adjacent mainland of Alaska, by over 600 people.

ATHAPASCAN LANGUAGE FAMILY

Northern Athapascan:

(1) Dogrib-Bear Lake-Hare:	spoken in the area of Bear Lake in Mackenzie; Chafe estimates 800 speakers of the Dogrib dialect and 600 speakers of the Hare dialect.
(2) Chipewyan-Slave-Yellowknife:	spoken in Alberta, Saskatchewan, Manitoba, and Mackenzie; Chafe estimates a total of 4400 to 6600 speakers, consisting of 3000 to 4000 Chipewyan, 1000-2000 Slave, and 400-600 Yellowknife; Tax's population figures are somewhat lower than the higher estimates of numbers of speakers: 2,615 Chipewyan, 1,075 Slave, and 438 Yellowknife.
(3) Kutchin:	spoken in Alaska, Yukon, and Mackenzie; Chafe estimates 1200 speakers; Tax locates 199 Kutchin in Yukon and 649 in

Mackenzie.

(4) Tanana-Koyukon-Han-Tutchone: spoken in Alaska and Yukon; Chafe estimates a total of 1800 to 1900 speakers; 350 Tanana, 400-500 Kuyukon (Koyukon), 60 Han and 1000 Tutchone (Tuchone).

(5) Sekani-Beaver-Sarsi: spoken in British Columbia and Alberta; Chafe estimates a total of 450 to 850 speakers, consisting of 100 to 500 Sekani, 300 Beaver and 50 Sarsi speakers.

(6) Carrier-Chilcotin: spoken in British Columbia; Chafe estimates a total of 1500 to 4000 speakers, consisting of 500 to 1000 Chilcotin speakers and between 1000 and 3000 Carrier speakers; Tax's map locates 782 Chilcotin and 2544 Carrier.

(7) Tahltan-Kaska: spoken in Alaska, Yukon, and British Columbia; Chafe estimates a total of between 300 and 1500 speakers, consisting of 100 to 1000 Tahltan speakers and 200 to 500 Kaska speakers; the Tsetsaut dialect is probably extinct; only twelve speakers--living in the area of Portland Canal, Alaska--were reported in 1895.

(8) **Tanaina-Ingalik:** spoken along the Yukon River and its tributaries in Alaska and Yukon; Chafe estimates a total of 1500 to 1800 speakers, consisting of 300 Tanaina, 500 Ingalik, 400 to 500 Upper Tanana (Nabesna), and 300 Ahtena (Atna).

(9) **Eyak:** spoken in Alaska; Chafe reports six speakers.

Pacific Coast Athapascan:

(1) **Hupa:** spoken in the valley of the Trinity River in California; Tax reports the total Hupa population as 589, of whom Chafe estimates 130 speak Hupa.

(2) **Kato-Wailaki:** spoken in California by fewer than 10 Kato now; the 'few' Wailaki speakers reported in 1900 have presumeably all died.

(3) **Chasta Costa:** formerly spoken by several groups along the Rogue River in Oregon, including the Tututni and Galice; Chafe reports one speaker of Galice and less than ten speakers of Tututni.

(4) **Mattole:** formerly spoken along Bear and Mattole

	Rivers in California; presumeably no longer spoken, Fang-Kuei Li reported only a few speakers in 1930.
(5) Tolowa:	fewer than five remaining speakers in Oregon are reported by Chafe.
Apachean (Southwest Athapascan):	
Western Apachean:	
(1) Navaho:	spoken in Arizona, New Mexico, Utah and Colorado by almost 100,000 people.
(2) San Carlos Apache:	spoken in Arizona by 8000 to 10,000 people.
(3) Chiricahua-Mescalero Apache:	spoken in Arizona and New Mexico; Chafe estimates between 100 and 1000 Chiricahua speakers, of whom less than 100 live in Oklahoma, and there are 1000 to 1500 Mescalero in New Mexico.
Eastern Apachean:	
(4) Jicarilla:	spoken by 1000 to 1500 people in New Mexico.
(5) Lipan:	spoken by fewer than ten people in New Mexico (Chafe).
(6) Kiowa Apache:	spoken by fewer than ten people in Oklahoma (Chafe).

Original sources for the preceding classification of Athapascan languages are given in C. F. Voegelin's North American Indian Languages Still Spoken And Their Genetic Relationships (in Language, Culture, and Personality, Essays in Memory of Edward Sapir, 1941):

"The Mackenzie area has been recently surveyed ethnographically by Osgood, who suggests a few groupings of tribal dialects in terms of mutual intelligibility. (1) Dogrib-Hare-Bear Lake is almost certainly one language; (2) Chipewyan-Yellowknife-Slave. Birket-Smith's report suggests that the intertribal relationships did not make for much linguistic practise between dialects; between the Chipewyan and "the closely related Yellow Knife intercourse was in the best of cases cool." (3) Kutchin is a language spoken by eight tribes in various dialects. (4) Tanana-Koyukon-Han-Tutchone; perhaps the first pair and the second pair of dialects form two languages. Dall sees little difference between Koyukon and the Ingalik languages. Allen gives additional local or band names for members of this language. (5) Sekani-Sarsi-Beaver-Stonies. That the dialect of the last tribe belongs in this group is known from Teit. Goddard, with reservations, gives Sarsi-Beaver as akin. Jenness gives Sekani-Beaver as almost the same dialect. (6) Carrier-Chilcotin is given by Farrand, Osgood, and Teit. (7) Tahltan-Kaska is given by Emmons, Osgood, and Teit. (8) Osgood places Tanaina-Ingalik as one language; Ingalik has also been associated with language (4), above. [We now add (9) as a divergent northern Athapascan language.]

"Perhaps five Athabascan languages are still spoken in northwest

California and southwest Oregon: Hupa, Kato-Wailaki, Chasta-Costa, and Mattole may be regarded as separate languages on the authority of Li, but Kato and Wailaki no doubt have important dialectic differences; Tolowa seems to have some speakers remaining.

"Hoijer finds that the southwestern Athabascans speak six separate languages: Jicarilla, Lipan, and Kiowa Apache, with Navaho dialects, San Carlos dialects, and Chiricahua-Mescalero dialects to the west of the first three languages. Goddard appears to say that with the possible exception of Navaho and Lipan, southern Athabascan is one language. This is no doubt an overstatement occasioned by a wider comparison of Southern Athabascan with Pacific Athabascan and Mackenzie Athabascan languages."

NORTHWEST COAST CULTURE AREA

In native North America there are two major culture areas which are, for the most part, coastal in their occupancy--the Arctic and the Northwest coast. The latter is contiguous with the former, extending from the Copper River in Alaska to the Klamath River or even to the Eel River in California. Negatively speaking, neither has been strongly affected by cultural influences from Middle or Nuclear America. Positively speaking, both have been strongly affected by foreign cultural influences. Both the Arctic coast and Northwest coast culture areas felt influences from Asia, while the Northwest coast, in addition, felt influences from Oceania in general and from Indonesia in particular (Kroeber, 1939). Such foreign influences predated the trading ships in the last decades of the eighteenth century which carried crews of Hawaiians, Filipinos, and Chinese, as well as iron tools which permitted the carving of totem poles standing taller than houses.

Eyak, Tlingit, Haida, Tsimshian, and one of the Kwakiutl languages--a total of five separate languages--are spoken in the Northern Maritime subculture of the Northwest coast. Of these, the recently discovered Eyak on the Copper River Delta is contiguous both to Eskimo and to Tlingit. The cultural florescence of the Northwest coast culture occurred in this Northern Maritime subculture in the nineteenth century.

Almost thirty separate Northwest coast languages are still spoken. Some Athapascan languages, as Tsetsaut, and a few other languages have become extinct. Of all these languages, Lower Chinook alone has served as the basis for a *lingua franca*, widely known in its pidginized form as Chinook jargon and, in fact, used beyond the confines of the Northwest Coast Culture area.

In contrast to the separate language enumeration and the language family enumeration, a typological summary would show much greater homogeneity in the Northwest coast culture area as a whole--when the typology is restricted to phonology. It was the relatively uniform phonologies in this macro area that led Boas to consider borrowing as of the same magnitude of interpretive importance as lineal descent, and that led Voegelin (1951, with reference to Boas) to typology as a method of obtaining cross-genetic comparisons.

SUBARCTIC CULTURE AREAS

Contiguous with the Arctic Coast Culture Area--from Newfoundland and the Gulf of St. Lawrence across subarctic America into the tundra region of Alaska--lie two or three subarctic culture areas. Driver gives three such areas. First, the area influenced by its flanking coastal culture areas, the Yukon Sub-Arctic, west of the continental divide. Second, the Mackenzie Sub-Arctic between the continental divide and the westernmost projection of Hudson Bay, a culture area which was not strongly influenced by any other area except superficially at its southern or Plains boundary, and at its western mountain hinterland boundary. Third, the Eastern Sub-Arctic, extending south of Hudson Bay (southwest as well as southeast), and south of the Labrador Eskimo up to and including Newfoundland. Since it is true, however, that cultural criteria alone are not sufficient for establishing a western boundary, Driver utilizes the line where separate languages from two different language families meet for dividing his Eastern Sub-Arctic (mostly Algonquian) from his Mackenzie Sub-Arctic (entirely Athapascan).

The Mackenzie Sub-Arctic is accordingly the only culture area occupied exclusively by speakers of Athapascan languages, but the northern Athapascan languages extended from this area to the adjacent Northwest Coast culture area. So also the Apachean languages are centered in the Southwest, but extend to adjacent culture areas.

REMAINING FOUR PHYLA

The two phyla reviewed above--Eskimo-Aleut (one family in an American-Asian phylum), and Na-Dene (one language family and two language isolates, with more distant phylum connections among Sino-Tibetan languages in Asia)--are the only two of the six proposed by Sapir that are not under on-going revision. The revisions are discussed below (1.6); the remaining languages and language families listed here are placed for convenience under the four remaining phylum headings that Sapir tentatively suggested.

ALGONQUIAN-WAKASHAN PHYLUM

The constituents of this phylum are four language isolates (Wiyot, Yurok, Kutenai, and the now extinct Beothuk), and four language families (Salish, Chimakuan, Algonquian, and Wakashan).

Wiyot:	northwestern California; Tax enumerates 65 Wiyot at Blue Lake, and 66 at Miami; among these there is only one speaker of Wiyot, according to Chafe.
Yurok:	lower Klamath River in northern California; of the 959 Yurok (Tax), not more than a score continue to speak their mother tongue (Chafe).
Kutenai:	Idaho, Montana and British Columbia; Tax locates 427 Kutenai in British Columbia, 99 on the Kutenai Reservation in Idaho, and an unspecified number

on the Flathead Reservation in Montana; 300 to 500 Kutenai continue to speak Kutenai according to Chafe; in 1904 (BAE-B30) there were 554 Kutenai speakers in the United States and 553 in British Columbia.

SALISH LANGUAGE FAMILY

Interior Salish:

(1) Lillooet: British Columbia; from 1000 to 2000 speakers according to Chafe; Tax gives a population figure of 1570.

(2) Shuswap: British Columbia; Chafe estimates the number of speakers as from 1000 to 2000; the population figure is 3276, according to Tax.

(3) Thompson: British Columbia; Tax gives 1733 for population, all of whom apparently still speak the language.

(4) Okanagon-Sanpoil-Coville-Lake: Washington and British Columbia; Chafe estimates 1000 to 2000 speakers.

(5) Flathead-Pend d'Oreille-Kalispel-Spokan: Montana and Washington; the total number of speakers is estimated by Chafe as from 600 to 1200, of whom 100 to 200 are Spokan (Spokane).

(6) Coeur d'Alene: Idaho; the speakers number approximately 100 (Chafe) out of a population figure of 630 (Tax) for the Coeur d'Alene Reservation.

(7) Middle Columbia-Wenatchi: Washington; speakers number approximately 200 (Chafe).

Coastal Salish:

(8) Tillamook: northwestern Oregon; Chafe finds only one speaker.

(9) Twana: western Washington; fewer than 10 speakers (Chafe).

(10) Upper Chehalis-Cowlitz-Lower Chehalis-Quinault: Washington; fewer than 100 speakers; Chafe estimates 10 to 100 Quinault speakers, fewer than 10 each for Upper and Lower Chehalis and one Cowlitz.

(11) Snoqualmi-Duamish-Nisqualli (Southern Puget Sound Salish): Washington; 50 to 100 speakers (Chafe).

(12) Lummi-Songish-Clallam (Straits Salish): Juan de Fuca Straits, San Juan Island and parts of the coasts of Washington and British Columbia; Chafe gives an approximate figure of 500 speakers (Clallam(Klallam) about 100; Lummi about 150; Saanich about 200; Songish 40; Samish 2, Semiahoo 2).

(13) Halkomelem (Lower Fraser River-Nanaimo): British Columbia; Chafe estimates the number of speakers at 1000 to 2000: about 150 Chehalis, 300 Chemainus, 150 Chilliwack, 500 Cowichan, 50 Katzie, 15 Kwantlen, 100 Musqueam, 150 Nanaimo, 60 Sumas and 250 Tait.

(14) Squamish: British Columbia; the speakers number less than 200 (Chafe); the population given is 678 (Tax).

(15) Comox-Sishiatl: British Columbia; according to Chafe, the speakers number over 500, only two or three of whom are Comox and the rest are Sliammon.

(15) Bella Coola: British Columbia; Chafe gives the number of speakers from 200 to 400; Tax sets the population at 334 for south coast of British Columbia.

CHIMAKUAN LANGUAGE FAMILY

(1) Quileute: Washington; speakers number from 10 to 100 (Chafe); possibly a population of 500 (Tax).

(2) Chimakum (an extinct language formerly spoken about Port Townsend Bay in Puget Sound).

ALGONQUIAN LANGUAGE FAMILY

(list of languages still spoken)

(1) Cree-Montagnais-Naskapi: Canada from British Columbia to Labrador, and Montana; Chafe estimates the total number of speakers at 35,000 to 45,000, of whom 30,000 to 40,000 are Cree.

(2) Menomini: Wisconsin (Menomini Reservation); speakers number less than 500 (Chafe); population is 3029 (Tax).

(3) Fox-Sauk-Kickapoo: Iowa, Kansas, Oklahoma; the speakers of Fox

and Sauk (Sac) are approximately 1000, Kickapoo approximately 500 in Kansas and Oklahoma plus another 500 in Chihuahua, Mexico; Tax gives a population figure for Fox and Sauk at 1629; U. S. Kickapoo 626.

(4) Shawnee: Oklahoma; speakers number less than 400 (Chafe); Tax gives a population of 2252.

(5) Potawatomi: Kansas, Wisconsin, Oklahoma, Michigan; speakers number from 100 to 1000; Tax gives population figure at 4898.

(6) Objibwa-Ottawa-Algonquin-Salteaux: Saskatchewan, Manitoba, Ontario, Quebec, Montana, North Dakota, Minnesota, Wisconsin, Michigan; Chafe estimates 40,000 to 50,000 speakers, including 10 to 100 in Michigan and Oklahoma who still speak Ottawa.

(7) Delaware: discontinuous geographic divisions (as Munsee and Lenape) formerly in the Delaware River basin in Pennsylvania, New York, New Jersey and Delaware; now is Oklahoma and Ontario; Chafe gives only 10 to 100 speakers, fewer than 10 of whom speak the Munsee dialect in Ontario; Tax gives a total population of 1885.

(8) Penobscot-Abnaki: Maine, Quebec; Chafe lists fewer than 10 speakers of Penebscot in Maine and 50 Abenaki speakers in

Quebec; Tax sets the population figure at 623.

(9) Malecite-Passamaquoddy: New Brunswick, Maine; Chafe estimates 600 to 700 Malecite speakers (from a population of 1124), and around 300 Passamaquoddy speakers (from a population of 700).

(10) Micmac: Nova Scotia, Prince Edward Islands, New Brunswick, Quebec; Chafe estimates 3,000 to 5,000 speakers; Tax locates 4,288 Micmac.

(11) Blackfoot-Piegan-Blood: Montana and Alberta; from 5,000 to 6,000 speakers (Chafe); Tax gives a population figure of 5,914 for the Blackfoot Reservation in Montana, plus in Alberta 1129 Blackfoot, 666 Piegan and 1899 Blood.

(12) Cheyenne: Oklahoma, Montana; according to Chafe, there are under 4000 speakers.

(13) Arapaho-Atsina-Nawathinehena: Wyoming, Oklahoma; Chafe gives number of speakers from 1000 to 3000, with fewer than 10 speakers of Atsina, in Montana.

Horizontal tiers of culture areas in North America show an increasing number of languages still spoken in each, from the Arctic regions to the Gulf of Mexico; and it is possible to show that there are now--as there were at the time of Columbus--many more American Indian languages spoken in South America than in North America. The survey so far shows four separate languages spoken in the Arctic Coast Culture Area. But four or five times as many separate languages are spoken in the Sub-arctic Culture Area which, like the Arctic, extends on an east-west axis. However, to the west of the Sub-arctic, again a greater number--about thirty separate languages--are spoken in the Northwest Coast Culture Area which extends, like far western culture areas generally, on a north-south axis.

Twice as many languages as this--about sixty separate languages--were spoken in the Third Tier Culture Areas which, as a whole, extend on an east-west axis when viewed in historical depth as a developmental major area; but the three subareal constituents of this major development area, the culture areas of the ethnographic present--Eastern, Prairies, and Plains--each extend on a north-south axis.

Proportionately more of the languages in the Third Tier Culture Areas--especially in the Eastern subarea--have become extinct than in the Sub-arctic or than in either of the Coastal areas already surveyed (Arctic Coast and Northwest Coast). Hence, to obtain some reasonable comparability, an estimate is made of the number of languages formerly spoken in the Eastern subarea, but this estimate is less reliable than the count of languages still spoken in each of the other Third Tier areas. All these languages are ascribed to the area of their provenience; most of them are still spoken--but many are now spoken in Oklahoma by speakers whose parents or grandparents were removed to Indian Territory from Prairie or Eastern areas, roughly between the Great Lakes and the Gulf of Mexico.

In surveying the languages of this major developmental area as a whole, it is useful to keep track of the language family affiliations of the separate languages counted. For example, it is possible to be more certain about the number of language families in the Eastern area than the number of separate languages formerly spoken there.

Algonquian languages of the Eastern area included two whose speakers may have migrated east just before the earliest contact with Europeans, from the Central Algonquian branch centering in the Prairies--Shawnee and Delaware. The latter was supposed from the first to have some Central Algonquian characteristics, but it also includes some Eastern Algonquian features, as phonemic stress; Shawnee does not. But the mobile Shawnee were nevertheless encountered, in early days of contact with Europeans, in many different places in the Eastern area, as well as in the Prairie area north of the Ohio River.

Half of the Algonquian languages of the Eastern area are now extinct. However, since more or less extensive dictionaries were compiled while these languages were still spoken, it is possible to set up an Eastern branch of Algonquian. Micmac belongs to this branch, and is still spoken in Nova Scotia: in the northernmost part of the indeterminate or intermediate region between (1) the Sub-arctic culture--characterized by hunting economy without permanent villages and without agriculture, and (2) the Eastern culture which characteristically included agricultural villages organized into numerous confederacies. But the Wabanaki Confederacy included hunting as well as village tribes. Dialect distance testing is still possible among the remaining dialects from Maine to the Gulf of St. Lawrence.

Of the still spoken languages which belong unquestionably to the Eastern branch of Algonquian, we count three-Micmac, Penobscot-Abnaki and Malecite-Passamaquoddy; about the same number of languages formerly spoken south of Maine have become extinct.

The fourth Eastern branch Algonquian language to be counted, now extinct, was spoken by a confederacy centering on Massachusetts Bay; in this language, the Natick dialect is most fully recorded. This dialect was probably mutually intelligible with the dialects of the Narragansett Confederacy villages; possibly also with dialects of the more numerous Wampanoag Confederacy villages east of Narragansett Bay, the confederacy known to history (through its leaders, Chief Massasoit, and his son, King Philip), and to tourists who today encounter descendants on Cape Cod (descendants of the Saconnet who no longer speak any Algonquian language). Finally, it is also possible that Natick was partially intelligible with dialects of the Pennacook Confederacy villages along the Merrimac in New Hampshire. At any rate, all of the confederacies listed here came to an early and abrupt end in consequence of the same general conditions; they were disruped and dispersed by King Philip's War (1675), some going north to become anonymous in the Wabanaki Confederacy.

A fifth Algonquian language now to be considered was spoken in many divergent dialects (some scarcely mutually intelligible) but all derived from neighboring areas beyong the Eastern area. For example, this language is represented by late comers to the coast of Connecticut (the Pequot) and to the upper Hudson River, the latter including many villages and a few subtribes known collectively as the Mahican or the Mohegan Confederacy. Dialects of the fifth language were also spoken in the Wappinger Confederacy villages along the lower Hudson River, and Manhattan Island, and in the Montauk Confederacy which included some, but not all villages on Long Island (as Shinnecock and Manhasset but not Canarsee and Rockaway). This fifth language is also represented by the Delaware Confederacy dialects, known by such names as Lenape, Munsee, Unami, and Unalachtigo, and first encountered in New Jersey, Delaware, and Pennsylvania. Of all the constituents of this fifth language, the Delaware may have been the first, in protohistoric times, to reach the east coast, with the other dialect speakers of the Central branch of Algonquian coming later and resuming some degree of intelligibility with the Delaware whom they acknowledged to be their 'grandfathers'.

Dialects of the Delaware type were not at all intelligible to Shawnee, a sixth Algonquian language. But the Shawnee, the last arrivals from the Prairies or Central Algonquians, also acknowledged the Delaware to be their 'grandfathers', as did the Nanticoke and Conoy. Of these protohistoric migrants into the Eastern area, only Shawnee and Delaware are still spoken.

For this kind of minimum estimate--one in which there cannot possibly have been fewer languages spoken while there may well have been more languages spoken than estimated here--the seventh and final Algonquian language to be accounted for in the Eastern area is that formerly spoken in various dialects by the Powhatan Confederacy villages in Virginia (Pamunkey, Mattaponi, Chickahominy, Nansamond, Rappahannock, Potomac). If Delaware represents a protohistoric intrusion into the Eastern area from the Prairies, so does Powhatan, for both show some features linking them with the Central branch of Algonquian as well as with the Eastern branch of Algonquian--languages spoken north of the Delaware. These northerners are presumably older inhabitants in the Eastern area than the Delaware or Powhatan. And, interestingly enough for such an historical reconstruction, the Delaware were more influenced by Iroquois culture than was any other Algonquian group in the Eastern area; and in a parallel way, the Powhatan were more influenced culturally by their non-Algonquian neighbors, the Muskogeans, than were other Algonquian groups.

In contrast to the linguistic mortality rate of Algonquian languages in the Eastern area, that of the Prairies shows all languages but one to be still spoken (Miami-Peoria-Illinois is extinct; its many tribal or village names correlate with some dialects known to be mutually intelligible in historical times). Ojibwa or Chippewa (Ojibwa-Ottawa-Algonkin-Salteaux) is still spoken in two culture areas (Sub-arctic and Prairies), and is structurally similar to a second separate language of the Prairies (Potawatomi), just as Fox-Sauk-Kickapoo is similar, as a separate language, to Shawnee; the latter provides another instance of same language in two different culture areas (Eastern and Prairies). Menomini, spoken only in the Prairies, does not pair, in structural resemblance, with any other language of the Central Algonquian branch. Nor does Cree with its widespread dialects--remarkable for being spoken in three culture areas (Prairies, Plains, Sub-arctic). In total, seven separate Algonquian languages were spoken in the Prairies in historic times: Miami-Peoria-Illinois, Ojibwa, Potawatomi, Fox-Sauk-Kickapoo, Menomini, Cree, Shawnee.

Hence, there were just about as many separate Algonquian languages spoken in the Prairies as in the Eastern area--about seven in each area, with some overlapping. Only half as many Algonquian languages were spoken in the Plains, and all of them are still spoken: Piegan-Blood-Blackfoot, Northern-Southern Cheyenne, Arapaho-Atsina-Nawathinehena--not to mention again the recently intrusive Plains Cree--and each belongs to a different branch of the Algonquian family.

WAKASHAN LANGUAGE FAMILY

The first three language names listed below may be called collectively Nootka languages, and the next three Kwakiutl languages.

(1) Nootka:	Vancouver Island, British Columbia; present population 1815 (Tax), all of whom apparently speak Nootka.
(2) Nitinat:	British Columbia, Chafe estimates 10 to 100 speakers.
(3) Makah:	Washington; present population 550 (Tax), speakers 500 (Chafe).
(4) Kwakiutl:	coast of British Columbia and adjacent northern end of Vancouver Island; approximately 1000

speakers (Chafe).

(5)	Bella Bella-Heiltsuk:	Milbank Sound, British Columbia; Chafe estimates 100 to 1000 speakers.
(6)	Kitamat-Haisla:	Douglas Channel, British Columbia; Chafe estimates 100 to 1000 speakers.

HOKAN-SIOUAN PHYLUM

The constituents of this phylum include eight language families (Pomo, Yuki, Shastan, Yuman, Iroquoian, Siouan, Caddoan, Muskogean), and more than eight language isolates (Washo, Karok, Keres, Yuchi, Tunica, Chitimacha, Tonkawa, Natchez, and other languages along the Gulf of Mexico (from Florida to Coahuila) that are now extinct, as well as southern outliers of this phylum--language isolates formerly spoken in Mexico, Salvador, and Nicaragua.

Not counting the almost random distribution of language isolates, half of the language families are western (Pomo, Yuki, Shastan, Yuman), and half eastern. The language families distributed entirely within the confines of one or another of the Third Tier Culture Areas (Plains, Prairies, Eastern) are Caddoan, Iroquois, and Muskogean. The provenience of the Middle Caddoans was the central plains, while the remaining languages represented Southern (Plains) Caddoans. Most Iroquois languages were northern and Great Lakes, but the provenience of the Tuscarora was Virginia, and that of the Cherokee was the Carolinas where some remain while others now live in Oklahoma. The provenience of the Muskogean languages was also in the Eastern Area, but entirely in the southern part of that area. In contrast to these three families, languages of the Siouan family were distributed in Eastern, Prairie, and also Plains Areas, instead of just one of the Third Tier Areas.

The language isolates specified above are listed below, before the list of languages in language families.

Washo:	California-Nevada--on the shores of Lake Tahoe and down the east slope of the Sierra Nevada; present population in 799 (Tax) of whom about a hundred speak Washo (Chafe).
Karok (Karuk):	northwest California, along the Klamath River, between Redcap Creek and Indian Creek, flanked by speakers of the Shasta language and the Yurok language; there are upwards of a hundred Karok speakers (Chafe) in a population of 705 (Tax).
Keres:	New Mexico (Rio Grande) pueblos, with western outlier pueblos, also in New Mexico; about 7,000 speakers of Keres (Chafe) in a total population of 7,425 (Tax), or more: Laguna (3,500); Acoma (2,000); Santa Domingo (1,500); San Felipe (1,000); Cochiti (500); Santa Ana (350); Zia (300).
Yuchi:	mid-source of the Savannah River, Georgia; not enumerated separately by Tax; spoken in

Oklahoma when studied by Günter Wagner (1934); still spoken by 10 to 100 individuals (Chafe).

Tunica: Louisiana, on the lower Mississippi River; present population 76 (Tax), with little or no knowledge of the Tunica language.

Chitimacha: Louisiana(shores of the Grande River and Grand Lake); of total population of 120 (Tax), fewer than 10 speak Chitimacha (Chafe).

Tonkawa: central Texas; fewer than 10 speakers (Chafe) in a population of 57 (Tax).

POMO LANGUAGE FAMILY

The population of Pomo living on the Pomo Reservation in California is 826 (Tax); without specification of which of the four Pomo languages are represented. The geographically discontinuous Coast Pomo influenced Barrett to distinguish between Coast and River divisions of the Pomo peoples; later linguistic investigation blurred Barrett's clear-cut division.

(1) Coast Pomo: spoken at the mouth of the Russian River; may have been mutually intelligible with some of the dialects spoken farther up along the Russian River, thereby merging Kroeber's South and Southwest Pomo; not more than 40 speakers of Southern and 50 speakers of Southwestern (Kashaya) today (Chafe).

(2) Northeast Pomo: single speaker (Chafe); this may have been the most divergent language in the Pomo family (perhaps under influence from languages of the Wintun family), spoken in the Coast Range valley of Storey Creek, a tributary of the Sacramento River.

(3) Western Clear Lake: middle and upper reaches of the Russian River, and also on the shores of Clear Lake; this language comprises dialects distinguished by Kroeber as Northern Pomo, with not more than 40 speakers (Chafe), and Central Pomo, also 40 speakers (Chafe).

(4) Southeast Clear Lake: spoken along the eastern shores of Clear Lake by fewer than 10 speakers (Chafe).

YUKI LANGUAGE FAMILY

The population of the Wappo is given as 49 (Tax), but this may represent the entire family; at any rate, the Yuki are not separately enumerated by Tax.

(1) Wappo: spoken today by fewer than 10 individuals (Chafe); formerly spoken in three or four closely similar dialects by bands of Wappo between Clear Lake and San Francisco Bay.

(2) Yuki language	spoken today by fewer than 10 individuals, formerly, a northeast Yuki dialect was spoken north of San Francisco Bay, in the Coast Range, and west of it on the Pacific Coast, the Ukhotnom dialect; between the Coast Range dialect and the Pacific coast dialect, a third dialect was differentiated (Huchnom).

SHASTAN (SHASTA-ACHUMAWI) LANGUAGE FAMILY

The first language listed below was once thought to be a language isolate, and the next two were once thought to be--in an unusual (non-reciprocal) sense--dialects of one language. Atsugewi speakers under Achumawi speakers, who do not, however, reciprocate. (Achumawi speakers do not under the Atsugewi with whom they intermarry.) Subsequently Shasta was reclassified as a divergent member of the family that was originally called Palaihnihan, consisting of two languages. The relatively widespread Achumawi language was differentiated into at least nine dialects of which four can still be clearly distinguished; the fewer speakers of the less diversified Atsugewi language seem to have grown up in a bilingual culture in which one learned to speak the language of one's forebears (Atsugewi) during childhood while learning, at the same time, to speak the language of one's neighbors (Achumawi), who were monolingually learning their own language. When the monolingual and bilingual neighbors intermarried, the latter enjoyed gossip both in his own camp and in his spouse's camp; but the monolingual Achumawi led a sad life, cut off from gossip whenever the couple would visit the spouse's Atsugewi camp. So an Achumani wife stated the matter (ethno-linguistics), assuming there was something non-reciprocal in the nature of the two languages spoken in her family such that hers could be understood by her husband, while his could not be understood by her. Olmsted's recent analyses of these two languages makes it appear almost certain that the ethno-linguistic or person-in-the-culture explanation of the Achumawi wife reflects the objective linguistic observation that the Achumawi and Atsugewi languages are so divergent as to be separated by a language barrier which is bridged only because the Atsugewi children learn Achumawi as an expectable part of their bilingual enculturation.

(1) Shasta (Sastean):	only remaining dialect is spoken by fewer than 10 Shasta (Chafe) in a population of 130 (Tax) along the Klamath River of northwest California between the territory of the Karok speakers and Fall Creek, and the valley of Scott River and Shasta River up to the Oregon border.
(2) Achumawi (Achomawi):	the four out of the nine dialects that can still be distinguished are Adjumawi proper and Atwandjini-Ilmawi-Hammawi; this Achumawi language is still spoken by 10 to 100 people

(Chafe) within the former territory of northeast California, from Pitt River and Montgomery Creek to Goose Lake.

(3) Atsugewi: northeast California in the region of Eagle Lake and Lassen Butte, near Pitt River; about 4 speakers today (Chafe).

YUMAN LANGUAGE FAMILY

(1) Upland Yuman or Pai (Havasupai-Walapai-Yavapai): northern half of Arizona; most of the 350 Havasupai, most of the almost 800 Walapai, and about 800 of the 1000 Yavapai speak Upland Yuman.

(2) Up River Yuman (Mohave-Yuma -[Maricopa-Kavelchadom-Halchidom]): along the Colorado River in California and Arizona, along the Gila River in Arizona, between the two, and in the Phoenix area; there are at at least 1300 Mohave speakers, 1000 Yuma, and less than 500 Maricopa, including the Kohuana and Halyikwamai who formerly spoke language (3) below, but now speak Maricopa. The Kavelchadom and Halchidom dialects have levelled with the Maricopa dialect.

(3) Delta River Yuman (Cocopa-Kohuana-Halyikwamai): in and around Yuma and Phoenix, Arizona, with a few in Mexico; about 200 speakers; the Kohuana and Halyikwamai dialects are no longer spoken; their former speakers now speak the Maricopa dialect of language (2), above.

(4) Southern and Baja California Yuman (Diegueño-Kamia-Akwaʔala (Paipai)-Kiliwa-Nyakipa): probably represents more than one language spoken or formerly spoken in southern California and Baja California; Chafe estimates 10 to 100 speakers of Diegueño.

IROQUOIS LANGUAGE FAMILY

(1) Seneca-Cayuga-Onondaga: three politically separate tribes speaking dialects of one language (Ashur Wright, 1842; William N. Fenton, 1941): 2000 to 3000 speakers of Seneca proper in Ontario and in New York (Chafe), with a population of 688 Seneca on the Tanawanda Reservation in New York; possibly more than 1000 Cayuga speakers of whom 200 to 500 now live in Oklahoma (Chafe) and 500 to 1000 remain in the north (Chafe) in Ontario and New York, where the population given by

	Tax is 170 in Ontario and 237 in New York, with 930 Seneca-Cayuga in Oklahoma; Onondaga speakers number 100 to 1000 in Ontario and New York together (Chafe), while the Onondaga population for New York alone is 744 (Tax).
(2) Mohawk:	1000 to 2000 speakers in Ontario, Quebec, and New York (Chafe); but the population approximates 7,000 (Tax).
(3) Oneida:	1,000 to 2,000 speakers in Ontario and New York (Chafe); but the Oneida population is 4,909 (Tax).
(4) Wyandot (Huron):	out of a population of 894 (Tax) in Oklahoma and Canada (Tax), which has remained stable since 1905 (BAE-B30 gives 832), only a few speakers remain (Chafe), 5 in Oklahoma and California (?).
(5) Tuscarora:	with provenience in Virginia (and North Carolina), a present day population of 452 live in New York (Tax); 100 to 300 speakers in New York and Ontario (Chafe).
(6) Cherokee:	with provenience in North and South Carolina; out of to-day's population of 11,766 in

Oklahoma and North Carolina; about 10,000 speak Cherokee (Chafe).

SIOUAN LANGUAGE FAMILY

This family might be called Siouan-Catawba; until further information is published on the now extinct Catawba language of South Carolina, Catawba remains indeterminate either as a divergent member of the Siouan family or as a remotely related language isolate. Three other extinct Siouan languages formerly constituted a branch of Siouan: the Tutelo of Virginia, and the Biloxi and Ofo of the lower Mississippi valley. Comparative work in Siouan from Dorsey to the Voegelins to Hans Wolff (IJAL 16. 61-6, 113-21, 168-78 and 17.197-204 in 1950 and 1951) pair Crow and Hidatsa as closely related and so also Winnebago and Iowa-Oto; these constitute branches coordinate with the remaining single Siouan languages still spoken. No one would question the fact that languages numbered (1), (2), (3), and (4) are single separate languages, but language (5) Chiwere (Iowa-Oto) and language (6), Dorsey's Dheghia, and language (7), Dakota, each represent dialects spoken by different sociopolitical units. In the case of language (5), the dialects of the Iowa speakers and Oto speakers in Oklahoma have leveled; in the case of languages (6) and (7), dialect differentiation of each of the constituent sociopolitical units is maintained.

(1) Crow: about 3,000 speakers in Montana (Chafe) represent the total population (Tax).

(2) Hidatsa (Gros Ventre): out of a total population of 933 in North Dakota (Tax), upwards of 500 speak Hidatsa.

(3) Winnebago: out of a total population of 2,985 (Tax), there are 1,000 to 2,000 speakers of Winnebago in Nebraska and Wisconsin.

(4) Mandan: fewer than 10 speakers (Chafe) in a total population of 343 Mandan in North Dakota (Tax); but a number of Hidatsa also speak Mandan.

(5) Iowa-Oto (Chiwere): the Iowa population is given as 652 (Tax) with 100 to 200 speakers (Chafe), and an additional 100 to 500 speakers are designated as Oto (Chafe) --in Oklahoma, Kansas and Nebraska; but in Oklahoma, at least, Iowa and Oto intermarriage has resulted in dialect leveling.

(6) Omaha-Osage-Ponca-Quapaw-Kansa (Dhegiha dialects): there are 2,006 Omaha in Nebraska (Tax), with upwards of 1,000 speakers (Chafe); 100 to 1,000 speakers of Ponca in Oklahoma and Nebraska (Chafe) 100 to 400 speakers of Osage (Chafe) in a population of 4,923 on the Osage Reservation in Oklahoma (Tax); fewer than 10 speakers of Quapaw (Chafe) out of a total population of

720 in Oklahoma (Tax); and 10 to 100 speakers of Kansa, now in Oklahoma.

(7) Dakota: in provenience (BAE-B30), Dakota groups (bands) included Assininiboin, Santee, Sisseton, Oglala, Teton and Yankton, whose combined territory was between latitude 42° to 49° and between longitude 90° to 99°, plus a Teton extension west of the Missouri and south of the Yellowstone River to the Platte River; present day reservations are located in these same areas--in the northern plains states of the United States and in the southern provinces of Canada; there are today 3,000 to 5,000 speakers of Santee (Dakota proper), 10,000 to 15,000 speakers of Teton (Lakota), 1,000 to 2,000, each, of Assiniboin (Stoney) and Yankton--the latter in Nebraska.

CADDOAN LANGUAGE FAMILY

Of the four Caddoan languages whose speakers were removed to Indian territory, only Kitsai has become extinct. The languages listed below are still spoken. The third language listed is dialectically differentiated and spoken by two distinct sociopolitical units, the Pawnee (formerly of the central Plains), and the Arikara (now as formerly, in the northern Plains).

(1) Caddo:	Chafe finds 300 to 400 speakers in Oklahoma; formerly spoken in eastern Texas, in territory extending as far east as Arkansas and the Red River in Louisiana.
(2) Witchita:	Chafe finds 100 to 200 speakers in Oklahoma; formerly spoken in territory that extended from the middle Arkansas River in Kansas to the Brazos River in Texas.
(3) Pawnee-Arikara:	Chafe finds 400 to 600 Pawnee in Oklahoma, and 200 to 300 Arikara on the Missouri River in North Dakota (their aboriginal habitat); the former Pawnee territory was in the Platte River valley in Nebraska.

MUSKOGEAN LANGUAGE FAMILY

(1) Choctaw-Chickasaw:	the total Oklahoma population of Choctow is 6,722 (Tax) which approximates the number of speakers given by Chafe who lists, in addition, 2,000 to 3,000 Oklahoma speakers of the Chickasaw dialect of the same language; the provenience of the Choctaw is from middle and southern Mississippi into Georgia, while that of the Chickasaw is northern Mississippi.

(2) Alabama-Koasati (Coushatta): upwards of 200 speakers (Chafe) in a population of 394 Alabama (Tax); of 300 Koasati (Tax), there are 100 to 200 speakers (Chafe); with a provenience as far east as Alabama, speakers of this language were reported as far west as Louisiana, Oklahoma and Texas by 1890 (BAE-B30).

(3) Mikasuki-Hitchiti: the Florida population of Mikasuki is 642 (Tax) which approximates the number of speakers (Chafe); the Mikasuki provenience is Alabama, and was adjacent to that of the Hitchiti of western Georgia.

(4) Muskogee (Creek)-Seminole: in 1905 there were over 10,000 speakers of the Muskogee (Creek) dialect and 2,099 speakers of the Seminole dialect in Oklahoma, beside 358 Seminole in Florida (BAE-B30); today there are 7,000 to 8,000 Muskogee (Creek) speakers and 300 Seminole speakers; the provenience of the language as a whole is Alabama and Georgia.

PENUTIAN PHYLUM

As proposed by Sapir, the five Anglo-American geographical divisions of the Penutian phylum (California Penutian, Oregon Penutian, Chinook [Washington Penutian], Tsimshian [British Columbia Penutian], and Plateau Penutian) seemed to include fewer language isolates than those assigned to the Hokan-Siouan phylum (see above), but as many language families--indeed more, if Sapir's Mexican Penutian were included in our count. Without counting the Penutian outliers in Mexico, the number of language families in the Penutian phylum is nine--namely, Yokuts, Maidu, Miwok-Costanoan, Wintun for California Penutian; Yakonan (Alsea and Lower Umpqua-Siuslaw) and Kalapuyan (three daughter languages) for Oregon Penutian; Chinook (two daughter languages) for Washington Penutian; and finally, for Plateau Penutian, two language families with two daughter languages in each(Sahaptin family and Waiilatpuan family). All the daughter languages in both Oregon Penutian families have become extinct (though there may be single remaining speakers of Kalapuya and Siuslaw), leaving representatives of seven Penutian language families.

The language isolates in addition to these language families would surely have included two for Oregon--Takelma in the interior and Coos on the coast (but one now extinct); and Tsimshian in British Columbia. In addition to these three unquestionable language isolates, we would count Lutuami (Klamath-Modoc) as a language isolate, although Lutuami represents a dialect continuum (see below); and Bruce J. Rigsby has unmasked the false history of the so-called Waiilatpuan family whose putative daughter languages (Molale and Cayuse) turn out to be language isolates. Thus there are at least a half dozen language isolates in Sapir's Penutian--almost as many as in his Hokan-Siouan phylum, above.

Both Molale (Molala) and Cayuse are now extinct; but for more than a century they have been regarded as sister languages of one language family. It was the missionary, Marcus Whitman, who 'discovered'--shortly before 1840--the supposedly close affinity between the Molale language and the Cayuse language: 'The Molalas speak the same language as the Kaius [Cayuse] and are said to have been separated from them in their ancient wars with the Snakes' --this from one of Whitman's letters cited by Rigsby. Later, Horatio Hale was a guest of Whitman's who obtained Cayuse informants for him; Hale accepted the Whitman theory of close affinity between Cayuse and Molale, and postulated the Waiilatpuan family when he published his word-lists in the Wilkes Expedition Report. In 1880, Gatschet thought it possible that the Sahaptin and Wayiletpu [Waiilatpuan] families might be related--apparently taking it for granted that the Sahaptin family (see below) was coordinate with the two language isolates (Cayuse and Molale), erroneously classified as sister languages in a Waiilatpuan family. In 1894, Powell and Hewitt proposed a larger affiliation, including this false Waiilatpuan family with the true Sahaptin family and another language isolate (Klamath-Modoc). Frachtenberg corroborated this in 1918, and extended the affiliation. Sapir seemed to have accepted, in his 1929 Encyclopedia article, the affiliation of Waiilatpuan (Molala-Cayuse), as a language family in the Penutian phylum. But this is clearly in error: Cayuse and Molale remain as language isolates, now extinct, within the yet to be discovered subrelationships of Sapir's Penutian phylum. When Rigsby examined the vocabulary items in Horatio Hale's vocabularies of Cayuse and Molale (Waiilatpuan), he 'found no cognates' (in a paper prepared for Symposium on Classification of North American Indian Languages at the 1964 Linguistic Institute at Indiana University).

Only those language isolates from Sapir's Penutian which are still spoken are listed here (in addition, as already mentioned, Takelma, Molale, and Cayuse have become extinct):

Tsimshian:	3,000 speakers (Chafe) in a population of 4,264 (Tax) in British Columbia and Alaska; three coastal dialects differentiated--Niska Tsimshian along the Nass River; Gitksan Tsimshian along the upper Skeena; Tsimshian proper along the lower Skeena--but the traditional provenience of the Tsimshian is interior rather than coastal.
Klamath-Modoc (Lutuami):	Tax counts a population of 1,117 on the Klamath Reservation; Chafe finds about 100 Klamath speakers and perhaps fewer Modoc speakers (10 to 100); the Klamath of

Oregon and the Modoc of California were different sociopolitical units; the two still show grammatical differences in speaking what may be regarded as one language, since the dialects are mutually intelligible; subdialectical differences in Klamath have been mentioned by informants but not recorded; it is recorded that Gumbatwas Modoc was differentiated from other Modoc groups recorded, and that lexical differences among the Modoc groups are slight; indeed, lexical resources of Modoc as a whole and the less differentiated Klamath appear to be much the same.

Coos: very few remaining speakers (Chafe).

In addition to the three language isolates still spoken, there are half a dozen language families classified in the Penutian phylum represented by at least one remaining language still spoken.

YOKUTS (MARIPOSAN) LANGUAGE FAMILY

(1) Yokuts, Foothill North: 10 to 20 speakers (Chafe) in a Chukchansi population of 112 (Tax) this was the most differentiated of all Yokuts languages; the Paleuyami dialect (Poso Creek) was probably intelligible to the other dialects listed here,

	which were certainly mutually intelligible: Chukchansi (Northern); Dumna (Northern); Gashowi (Kings River); Choinimni (Kings River); Wükchumni (Tule-Kaweah); Yaudanchi (Tule-Kaweah),
(2) Yokuts, Foothill South:	Buena Vista dialects spoken in the southern foothills of the coast range, south of Tule Lake.
(3) Yokuts, Valley:	differentiated in two dialects, in the southern San Joaquin valley of central California: Yauelmani; Chauchila.

MAIDU (PUJUNAN) LANGUAGE FAMILY

(1) Southern Maidu (Nisenan):	fewer than 10 speakers (Chafe); formerly there was dialect differentiation among the Nisenan (Beals) in the foothills of the eastern Sierra Nevada in central California.
(2) Northwest Maidu:	10 to 100 speakers (Chafe) in the lower foothills of the Sierra Nevada in central California.
(3) Mountain Maidu:	Chafe gives for Northeast Maidu fewer than 10 speakers, whose provenience in the Honey Lake region of the Sierra Nevada is east of

	that of language (2), above.
(4) Valley Maidu:	formerly spoken between Sacramento and the Sierra foothills in central California.

MIWOK LANGUAGE FAMILY

(1) Sierra Miwok:	some 50 speakers of whom a score are southern, 5 central and 20 to 30 northern, and one, valley; these are the remaining speakers of dialects of one language formerly occupying the Sierra slope from the Fresono River to to Cosumnes, and extending into San Joaquin valley; these speakers were formerly unaware of the existence of the second Miwok language, below.
(2) Coast and Lake Miwok:	one Coast Miwok speaker and fewer than 10 Lake speakers (Chafe); the dialects of this second Miwok language were more numerous than those of Sierra Miwok, (1), above; speakers on one side of the Coast range--on the southern Marin County Coast and at Bodega Bay--were in constant contact with speakers on the other side, representative of the Lower Lake dialect or dialects.

WINTUN (COPEHAN) LANGUAGE FAMILY

(1) Patwin:	10 to 100 speakers of this southern language of the Wintun family whose provenience was north of San Francisco Bay, California.
(2) Wintu (Wintun):	20 to 30 speakers of a language dialectically differentiated in central (Wintu) and northern (Wintun) groups, west of the Patwin, (1) above, to Mt. Shasta and between the Coast range and the Sacramento River.

CHINOOK LANGUAGE FAMILY

(1) Upper Chinook (Kikct):	10 speakers of Wishram in Washington, and 10 of Wasco in Oregon and Washington; these and other dialects (Cascades-Multnomah-Clackamas-Kathlamet) are or were spoken along the Columbia River above The Dalles in Oregon and Washington, and contributed to:
Chinook Jargon:	10 to 100 speakers (Chafe)--people who know a dead language, one that is no longer used as a lingua franca; though Chinook-based, Chinook Jargon is not a descendent of Proto Chinook; nor of Proto Wakashan or of Proto Indo-European merely because Nootka, French, and English

were also important contributors to this pidgin which was formerly used as a lingua franca from north California to south Alaska.

(2) Lower Chinook: now extinct, but formerly spoken on both sides of the Columbia River Delta in more than one dialect (Clatsop, and Lower Chinook proper).

SAHAPTIN (SAHAPTIAN) LANGUAGE FAMILY

Sapir's Plateau Penutian, as emended above, includes three language isolates (Molale, Cayuse, and the dialect continuum Klamath-Modoc), and are language family (Sahaptin). It is certainly true of the pair of languages in this language family--and possibly true of the Plateau culture area as a whole--that multilingualism was expectable rather than exceptional.

(1) Nez Perce: 500 to 1,000 speakers (Chafe) in a total population of 1,530 (Tax); Rigsby knows individuals who are bilingual in Nez Perce and Bannock (of the Uto-Aztecan family), Nez Perce and Crow (of the Siouan family), and Nez Perce and Flathead (of the Salish family); Nez Perce is spoken today on a reservation in Idaho, on the Colville Reservation in Washington, and on the

Umatilla Reservation in Oregon by Cayuse who have shifted their language from Cayuse to Nez Perce (presumably after a period of replacive bilingualism); two regional dialects of Nez Perce may be distinguished (one favoring laminal, the other apical articulation), and men's speech (favoring /l/) is distinguished from women's speech (favoring /n/).

(2) Sahaptin (Northern Sahaptin): up to 2,750 speakers (Chafe) in a population of 5,104 (Tax) differentiated as follows, in terms of three dialect clusters, after Rigsby.

Northwest (Yakima, Kittitas, Upper Cowlitz, Upper Nisqually, Klikitat), Sahaptin and Salish bilingual speakers shared the Kittitas dialect of Sahaptin and a dialect of Columbia Salish; the Upper Cowlitz dialect of Sahaptin and one of the Salish dialects of Upper Chehalis; the Upper Nisqually dialect of Sahaptin and a Coast Salish language. Sahaptin and Chinook bilinguals shared Klikitat and Upper Chinook.

Northeast (Wanapam, Walla Walla, Wawyukma, Palouse), Sahaptin and Nez Perce bilingual speakers shared the Walla Walla, Umatilla and Palouse dialects of Sahaptin and Nez Perce. The Wanapam relations with the Columbia Salish were hostile, and not conducive to bilingualism.

Columbia River (Umatilla, Rock Creek, John Day, Celilo, Tygh Valley, and Tenino [more restricted than Murdock's 'Tenino' which comprises John Day, Celilo, Tenino, and Tygh Valley]). Shaptin and Upper Chinook bilingual speakers share one or another of the Columbia River dialects and one of the Upper Chinook dialects (either Wishram or Wasco).

AZTEC-TANOAN PHYLUM

The constituents of this last and most parsimonious phylum really include only two language families, one with an enormous geographic distribution (second only to Athapascan), and the other for the most part confined to a few Rio Grande Pueblos in New Mexico. Sister languages in the Uto-Aztecan family extend from the Idaho-Canadian border to Mesoamerica. Their subrelationships, as formulated by Sapir, Kroeber and others (Shoshoean branch in the north, Sonoran in the middle and Aztec languages in the South) were challenged by Whorf on the basis that he could find no evidence to support tri-branching in the family; some subsequent workers have echoed Whorf's challenge, but some have marshalled evidence in support of the tri-branching in Uto-Aztecan. Evidence that this far-flung family might be placed, as Sapir suggested, in the same phylum with the Pueblo-centered Kiowa-Tanoan family was published by Whorf and Trager in 1937 ('by reconstructing the ancestral forms of each family...we discover the common ancestor of both'), and has not been challenged since.

Sapir must have been aware that his final phylum would seem aberrent if it did not include a language isolate in addition to language families because all his other phyla either include language isolates among language families or (in the case of Na-Dene) a language family among language isolates. He was certainly aware in 1929 that Zuni was less 'suggestive' than Uto-Aztecan and Kiowa-Tanoan for inclusion in the same phylum ('A more far-reaching scheme than Powell's, suggestive but far from demonstrable in all its features at the present time, is Sapir's'). This awareness is shown by the fact though Sapir did include Zuni as a language isolate among the two language families in his final phylum, he did so with a question mark--the only entry so questioned in his far-reaching scheme:

Zuni (?): 3500 speakers in western New Mexico.

UTO-AZTECAN LANGUAGE FAMILY

Plateau Shoshonean:

(1) Mono: 100 to 500 speakers in eastern California (Chafe); structural and historical phonological differences make it seem probable that Mono is a separate language from (2), below, with which it is usually associated.

(2) Northern Paiute (Paviotso)-Bannock-Snake: from Oregon and western Nevada to the Northern Plains; Chafe estimates 2,000 speakers; a population figure of 3,340 (Tax) includes Snake in eastern Oregon, Northern Paiute in eastern California and Nevada, and Bannock in

Idaho.

(3) Shoshone-Gosiute-Wind River-Panamint-Comanche: in the intermountain area from eastern California to central Wyoming; the Comanche having moved into the Southern Plains only about 400 years ago (Liljeblad); Chafe estimates 5,000 Shoshone (Shoshoni), including Gosiute (Goshute), speakers in California, Nevada, Idaho, Oregon, and Wyoming, only 600 fewer than their total population (Tax), 10 to 100 Panamint (Koso) speakers in California, and 1,500 Comanche speakers in a population of 2,700 (Tax) in Oklahoma.

(4) Southern Paiute-Ute-Chemehuevi-Kawaiisu: California, Nevada, Utah, Arizona, Colorado; Tax's map locates 214 Southern Paiute in southeastern Nevada, 148 in southwestern Utah and 108 in northwestern Arizona, the number of speakers is less than the total of almost 500, since many children do not speak Southern Paiute; the Ute population is almost 2,700 (Tax), most of whom would speak Ute by Chafe's estimate of the number of speakers (2,000-4,000); Chafe's estimate of 100-200 Chemehuevi speakers may be low since most of the 300 Chemehuevi on the Colorado

	River Reservation in Arizona (including children of Chemehuevi-Mohave marriages) still speak Chemehuevi; the Chemehuevi formerly in California are now among those in Arizona or dispersed; there are fewer than 10 Kawaiisu speakers (Chafe) in a population of 150 (Tax).
Pueblo Shoshonean:	
(5) Hopi:	northeastern Arizona; almost 4,800 speakers.
Sierra Nevada enclave (Kern River) Shoshonean:	
(6) Tubatulabal:	on the north and south forks of the Kern River, California; fewer than 10 speakers (Chafe) in a population of 145 (Tax).
Southern California Shoshonean (other than extinct languages like Gabrieleno-Fernandeño):	
(7) Luiseño:	centering around Pala, California; fewer than 200 of the 1,000 Luiseño still speak Luiseño; extinct dialects include Pauma-Rincón-Pala-Temecula and possibly Juaneño.
(8) Cahuilla:	centering around Palm Springs, California; fewer than 100 of the 600 Cahuilla still speak Cahuilla.
(9) Cupeño:	fewer than 10 remaining speakers (Chafe).
(10) Serrano:	only two or three of the almost 400 Serrano still speak Serrano.
Sonoran (other than extinct languages like Opata and Cahita):	

(1) Pima-Papago: in Arizona there are 2,000 Pima and 11,000 Papago, most of whom speak Pima-Papago; perhaps 100 additional Papago live in Sonora.

(2) Pima Bajo (Nebome): in Sonora.

(3) Yaqui-Mayo: Arizona, Sonora, Sinaloa; 3,000 Yaqui in Arizona, 10,000 Mayo and Yaqui in Mexico.

(4) Tarahumara (Vorohio): Chihuahua; 12,000 speakers.

(5) Cora: central coastal region of Sinaloa.

(6) Huichol: Nayarit and Jalisco; 4,000 to 5,000 speakers.

(7) Tepehuan (Tepecano-Northern Tepehuane-Southern Tepehuane): may represent more than one language spoken in Sonora and Jalisco; Tepecano in Jalisco, reported by Wonderly to be close to extinction may, as may the others, be divergent dialects of Pima-Papago (Whorf and lexicostatistics);

Aztec (Nahuatlan):

(1) Nahuatl (Mexicano): Mexico; numerous dialects, as Tetelcingo, Matlapa, Milpa Alta; the figure of 1,000,000 speakers probably includes (2), below,

(2) Nahuat: Mexico; numerous dialects, as Zacapoaxtla.

(3) Mecayapan: Mexico.

(4) Pochutla: on the Pacific coast of Oaxaca.

(5) Pipil: El Salvador, southern Guatemala, northern Honduras.

KIOWA-TANOAN LANGUAGE FAMILY

(1) Tiwa((Taos-Picuris)-(Isleta-Sandia)): New Mexico; two divergent dialects with about 3,000 speakers altogether: the population of Taos Pueblo in northern New Mexico is around 1,200, most of whom speak Taos; the population of Picuris, twenty miles south of Taos is less than 200, among whom many children do not speak Picuris; the population of Isleta Pueblo and its outlying communities on both banks of the Rio Grande thirteen miles from Albuquerque is almost 2,000, most of whom speak Isleta, although bilingualism is almost universal; of the less than 200 Sandia, equally close to Albuquerque, a smaller number speak Sandia; since most children do not learn it now.

(2) Tewa (San Juan-Santa Clara- San Ildefonso-Tesque- Nambe, Hano): along the Rio Grande, north of Albuquerque, New Mexico and on the Hopi First Mesa in Arizona; under 2,500 speakers, since Tewa is not learned by some children, especially those living outside the pueblos and those of Tewa married to people of other tribes--except Hopi, when the

	the children on the Mesas learn both Tewa and Hopi: the present San Juan population is 1,000, the Santa Clara population is 700, San Ildefonso over 200, Tesuque 200, Nambe close to 200, Hano (Arizona Tewa) about 200.
(3) Towa (Jemez):	on the Rio Grande north of Albuquerque, New Mexico; perhaps all of the 1200 Jemez speak the language, which represents a leveling of the Jemez and Pecos dialects after the score of survivors of an 1838 epidemic at Pecos moved to Jemez Pueblo, where their descendants maintain some self-identification but no dialect differences.
(4) Kiowa:	Southern Plains, now in Oklahoma; Chafe estimates 2,000 speakers.

LATIN AMERICA

1.5 Latin America is the area south of the Mexican-United States border which extends to the tip of South America, and includes the Caribbean Islands between the Gulf of Mexico and the Atlantic Ocean. Spanish is the dominant language of the majority of the people of most of Latin America, and the official language of Argentina, Bolivia, Chile, Ecuador, Peru, Uruguay, Venezuela, Costa Rica, Cuba, Dominican Republic, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama. But there are other dominant languages in Latin American countries (and in some countries two languages are prominent): Portuguese in Brazil, English in Jamaica, French and French Creole in Haiti, English and Spanish in Puerto Rico. And in a few countries, the second dominant language is Indian: Spanish and Guarani in Paraguay, Spanish and Quiche in Guatemala, Quechua and Spanish in Ecuador (and in parts of Peru).

The language barrier between Portuguese speakers of Brazil and neighboring Spanish speakers is a relatively low barrier, since those who know one of these languages often learn the other--without going to school for the purpose. English, however, is usually given as an obligatory course to high school children in most of Latin America. For example, in Puerto Rico, English is taught--and spoken to a limited extent--as a second language. In Cuba today, Russian and Chinese are offered, while in former days schools offered only English and French.

Most Indian languages are spoken by minority groups, but a few are

are numerically conspicuous. Thus, Quechua has four million speakers, Aymara one million; and there are more Guarani than Spanish speakers in Paraguay. In Mexico and Guatemala alone, Cakchiquel, Kekchi, Mam, Mixtec, Otomi, Quiche, Totonac, Yucatec and Zapotec, each have over 100,000 speakers.

Language barriers continue to exist between monolingual American Indian speakers and those of dominant language groups. Sometimes this is alleviated by a lingua geral, sometimes by the development of widespread bilingualism or by replacive bilingualism leading to the loss of American Indian languages.

Before proceeding to the list of American Indian languages, a brief survey of the language census in each Latin American country is given.

MEXICO

The misleading ethnic classification of the Mexican population into Whites, Indians and Mestizos has been dropped from the Census (1940's). More than 90 percent of Mexico's population of 34,626,000 (1960 census) speak Spanish natively. Only 7.5 percent of the people are native speakers of American Indian languages.

GUATEMALA

3,822,233 is the total population (1960) of Guatemala; 1,400,000 are Spanish speakers, and the remainder--more than half--speak American Indian languages. Indian settlements are mainly in the highland zones.

More than ten American Indian languages are spoken in Guatemala. Where adjacent villages have different languages or dialects, Quiche serves as the *lingua geral* (*lingua franca*).

BRITISH HONDURAS

The 1960 census gives a population of 90,343 for British Honduras which is known to other Latin American countries as Belice. One-third of the population speak either English, or an English Creole. On the coastal settlement 6,000 persons of Negro-Indian descent, speak Carib. Maya-speaking Indians live in the inland mountain zone; many Mayans speak Spanish also, either monolingually or as bilingual adjunct to their domestic Mayan language. Since 1957, some German-speaking Mennonites have moved from Northern Mexico to the District of Orange Walk, on the northern coastal plain, and to the district of Cayo, on the northern edge of the Maya mountains. Only a few members of the low-German speaking communities speak Spanish (for business transactions).

HONDURAS

The population is 1,883,480 (1961 census). Over 90 percent of the population are Spanish speakers, while less than six percent are monolingual speakers of American Indian languages (e.g. Jicaque, Mosquito, Zambos and Payas). On the offshore islands, as well as on the northern coastal areas, Negroes were introduced from Jamaica to work the banana plantations, and English or English-based Creole, is now widely spoken in these areas. Some Black Carib speakers--descendants of escaped African slaves and Caribs--also inhabit the coastlines, and may speak an Afro-Carib Creole.

EL SALVADOR

The 1958 population was about 2,500,000, mostly Spanish speakers, although a few groups still speak American Indian languages (e.g. Pipil and Lenca).

NICARAGUA

The population in 1960 was about 1,500,000, mostly Spanish speakers, with the educated wealthy also having familiarity with English. American Indian language speakers are almost non-existent in Nicaragua.

COSTA RICA

The population of just over 1,100,000 (1960) is overwhelming Spanish in speech, but not exclusively so. The small numbers and the remoteness of the original Indian population has led to a widespread impression that none exist today. The Indians, estimated at about 4,000 in 1956, still live in isolated mountain districts, speaking dialects and languages of West Chibchan.

PANAMA

In 1960, the population was 1,067,766. Spanish is Panama's national language and is spoken by 1,000,000 people; English is a second language for those who live in cities, and is being taught in high school and in the university. A large minority of English-speaking British West Indian Negro migrants to Panama are marginal to the Spanish-speaking Panamanians and to the Canal Zone English speakers from the United States. Tribal Indians live away from the Zone, some in the Darien jungles, some on the San Blas archipelago, and some in the western mountains; many are monolingual speakers of Cuna (San Blas archipelago) or Choco (Darien jungle) or Guaymi (Isthmian Chibchan).

CARIBBEAN HISTORY

Two linguistic groups--the Caribs and the Arawakans--were the inhabitants of the Caribbean in pre-conquest times. Spanish control of the Caribbean was undisputed during the first hundred years after contact (1492-1600), but immigrant settlement was insignificant. Of significance was the extinction of Arawakan languages on the island of Jamaica, mainly through Spanish extermination of most of the Arawakans, and their absorption of the remainder. In Jamaica African slaves were introduced to replace the Arawakans as laborers. An era of raids by English, French and Dutch buccaneers in the 16th and 17th centuries preceded colonists from France, Holland, England and Denmark who began settling on the Lesser Antilles. After England wrested Jamaica from Spain in 1660, Jamaica became a base for slave trade. Estimates of numbers of slaves vary from several hundred thousand for all the Antilles to 3,000,000 for Jamaica alone at the turn of the 17th century. With the emancipation of slaves, indentured labor was imported from India, from Hongkong, and sometimes from Java.

JAMAICA

In 1960 the population was 1,613,880. English is the major language, spoken by 1,453,660 people of African descent and by 18,000 people of European descent. The remaining 143,000 are speakers of Asian languages (e.g. Hindi-Urdu and Chinese), some of whom are bilingual in English. The Jamaican English dialects form a continuum ranging from the Jamaican Received Standard emanating from Kingston, the capital, to Quashie talk. Creole is known to Jamaicans as Bongo talk.

BAHAMA ISLANDS

Between 1492 and 1508, Spanish raiders carried off large numbers of Arawakans to work in the mines of Hispaniola (Haiti and the Dominican Republic) and the Bahamas subsequently were void of inhabitants (except for occasional buccaneers) for more than a century before English settlement took place. English seems to be the only language spoken in the

Bahamas, by a population of under 100,000.

CUBA

Before Spanish conquest, the inhabitants of Cuba were Taino and Ciboney speakers of the Arawakan language family. Slave imports between 1790 and 1850 resulted in the Negro population growing larger than that of the Spanish. After 1845, indentured Chinese laborers were shipped to Cuba. During the past fifty years many migrants from the former Spanish territory of Santo Domingo, which had been ceded to France came to Cuba; and many migrants followed later when Haiti's internecine conflict led to Negro government; still later some migrants came to Cuba from Britain, United States and Canada. After World War II many displaced persons migrated to Cuba. Most recently, people from the Soviet Union as well as from the People's Republic of China have increased the multilingual population of Cuba which is 6,933,253 (1961). Spanish remains the dominant language, with English being second in importance. A secret language called Lucumi is used by a Negro religious sect known as Santeria; Olmstead has shown Lucumi to be possibly related to an African language, Yoruba (Language 29.157-64).

HAITI

The population of Haiti is 4,345,948 (1962 estimate);

virtually all speak Haitian Creole; most of the relatively few who are native speakers of French can switch to Creole from French (one of the chief examples of Ferguson's diglossia).

DOMINICAN REPUBLIC

The Dominican Republic shares the island of Hispaniola with Haiti. Hispaniola was the first Spanish settlement established in the Caribbean. From here, subsequent expeditions explored the other islands, and the mainland Americas. The population (3,013,525 people according to the 1960 census), includes 19,193 French-based Creole speakers from Haiti and 5,500 English speakers from the United States, England, and British Antilles; all the rest are Spanish speakers.

PUERTO RICO

Fifteen years after initial discovery by Columbus, Puerto Rico was settled by Spanish, who had by then subjugated the Arawakans. By the 18th century the population (155,000) was augmented by French migrants from Louisiana and Haiti, and Spanish from San Domingo. After 1898, the population increased to 2,349,544 (1960). Spanish is the major language and is used throughout the educational system; English is the second language, and is taught as such.

VIRGIN ISLANDS

In 1961, there was a permanent population of some 40,000; English is the major language, having replaced the Dutch-based Creole which is now almost extinct.

LESSER ANTILLES

East of the Virgins, across the Onegada Passage, the Lesser Antilles festoon arcs southwards for 700 miles almost to Trinidad, just off the Orinoco River delta in Venezuela. French, and French-based Creole are the major languages on the northern islands; Dutch is spoken on the Dutch-owned islands; on the southern half of the Lesser Antilles French-based Creole is being replaced gradually by English--in St. Lucia, St. Vincent, and Grenada, for example. Dominica is the only island in the Lesser Antilles with a significant number of Carib speakers.

TRINIDAD

In 1960, the population was 827,957, of whom one third had their origins in India. English is the major language, while French-based Creole, Hindi and Spanish are also spoken.

CURACAO

The Dutch-administered island of Curacao has a population of 124,500 (1960 census). The main languages are Dutch and Papiamento--the latter being a Spanish-Portuguese-based Creole, with later borrowings from Dutch. Papiamento is also spoken on some neighboring islands.

GUIANAS

From a linguistic point of view, the Guianas seem more like the Caribbean in contemporary language situation than like the rest of South America. Geographically, the Guianas are separated by a series of mountain chains from the enormous Amazon drainage to the south, and from the Orinoco drainage to the northwest--by mountain chains that intervene between the Guianas and their political neighbors (Venezuela, colonized by the Spanish; and Brazil, colonized by the Portuguese). The three modern political units of the Guianas were partitioned after the Napoleonic wars; before that the Guianas were colonized by the French, Dutch, and English. Large numbers of African slaves escaped from the plantations of the colonizers into the jungle interior before emancipation (1834 in British Guiana; 1848 in French Guiana; 1863 in Dutch Guiana (Surinam)).

After emancipation, indentured laborers--mostly Hindi-Urdu speakers--were imported from India to British Guiana where they now constitute 49 percent of the present population (the largest single ethnic group). The second largest ethnic group includes descendants of African slaves who speak Creole. The official language is English. Out of the total population of 558,000 in British Guiana, only 4 percent are American Indians.

This is still twice as many, proportionately, as the American Indians in Dutch Guiana (Surinam)--2 percent of a total population of 254,500. And only 1 percent of French Guiana's small population (24,125) are American Indians. A post-emancipation ethnic group from India not only constitute a large minority in French Guiana, but their population is increasing faster than that of speakers of other languages. Indentured laborers--mostly Javanese speakers--were brought from the Dutch East Indies to Surinam where they now constitute 14 percent of the population.

SOUTH AMERICA

In one sense, more multilingualism is found in Mexico and countries to the south of Mexico (Mesoamerica generally) and in the Caribbean (the islands themselves, and the Guianas taken as a linguistic part of the Caribbean) than there is in South America proper, where Spanish is spoken in every country where Portuguese is not. But in another sense, or from another viewpoint--the viewpoint taken in this report--South America as a whole remains today an exemplar of continuing multilingualism rivaled only by Africa and by Asia south of the Caucasus-Yunnan line (1.3, above, where the point was made that the only part of the world in which relatively few languages coexist in a state of micro-multilingualism is Europe and Asia north of the Caucasus-Yunnan line). North America has fallen from its once held state of macro-multilingualism, and has become or is becoming, like Europe, a continent in which relatively few languages are spoken. This is because American Indian languages are in general decreasing in spite of increase in population--at least in Anglo America; in Mexico, increase in population has the occasional effect of offsetting the number of individuals who shift from an aboriginal language to the monolingual use of Spanish--beside an increasing number of Indians who speak Spanish bilingually. In South America, however, it is possible that some American Indian languages are gaining in speakers (1.1, above). But perhaps South America in general is now in a state of linguistic homeostasis--the number of speakers of different American Indian languages may on the whole be maintaining the same number of speakers.

Historically, many different South American Indian tribes reacted differently to the impact of European conquerors than did Indians in Mesoamerica or in the Caribbean. In small or isolated land areas, the American Indians had no place to turn when confronted by Europeans in the conquest period, and so faced two alternatives: extermination or reshaping assimilation to some domains in European culture, notably Catholicism and peasant status in a class structured economy. In South America, some American Indians took advantage of a third alternative: withdrawal from the land preferred by Europeans for settlement to less favored land in a very large continent.

On the arrival of the Portuguese in the 16th century, Brazil was inhabited by about a million American Indians speaking many different languages. The coastal regions were soon abandoned by Indians who--apart from slaves and those Indian women living with Portuguese men--

fled inland. By 1820, there were more African slaves in Brazil, than both Portuguese and Indians combined. For a time a language of the coastal Indians, Tupi, became the lingua geral, spoken by Indians, Africans, and Portuguese alike; it is now displaced by Portuguese. The population of Brazil is 66,302,271 (1960); Portuguese is by far the most important language. Japanese speakers in Matto Grosso, Sao Paulo and Maranhao make up only one per cent of the population, and this exceeds the number of Italian, Spanish, German and Polish speakers in Sao Paulo, Parana, Santa Catarina, and Rio Grande do Sul. American Indian speakers tend to remain in inland Brazil.

The Spanish, after their 16th century conquests, promoted Quechua for administrative purposes, at the expense of surviving languages, and by the end of the 18th century, Quechua was universally spoken in the Ecuador highlands. Some languages became extinct when their speakers switched to Quechua; but this was under 18th century Spanish influence. (Quechua is still spoken by more people than Spanish in the Andean highlands of Ecuador and Peru.)

Other American Indian languages still spoken close to or on both sides of the Ecuador-Peruvian border are Auca (Huarani), Zaparo, and Jivaro. On the jungle lowlands close to the Columbian border and near the northwest coast, live the Cayapa speakers, related to the Colorado, isolated in the jungles of Santo Domingo de los Colorados.

In addition to its continental area, Chile also administers two islands in the Pacific--Juan Fernandez, and Easter Island--the latter inhabited by Polynesians, many of whom are bilingual in Spanish. The majority of American Indians in Chile speak Araucanian languages and dialects--200,000 in a population of 7,339,546 (1960).

A former colonial policy of keeping the Indians from learning Spanish has led to a curious result in Bolivia; 36 per cent of Spanish speakers have some second language knowledge of Aymara or Quechua in the highlands. In the lowlands of Bolivia thousands of Japanese and Okinawans speak their native languages; 4,000 German and 2,000 Polish speakers live in the cities of La Paz and Cochabamaba.

Because of Paraguay's ample land and sparse population, various countries have subscribed colonizers, notably Italy, Germany and Japan. All have become Paraguayans in culture (except the 15,000 German-speaking Mennonites who have established two colonies in the Chaco region); and in Paraguayan culture language loyalty is not to Spanish but to Guarani, an American Indian language. Three other Indian languages--Maccas, Lenguas, and Guayagui are spoken in Paraguay, but no language loyalty is felt for them, as it is for Guarani. In rural areas, most of the rural population do not speak Spanish before attending school; while in the Asuncion urban area, both Guarani and Spanish are used. Guarani today is being given equal status with Spanish, as part of a nationalistic movement which Paraguayans call the Guarani Renaissance. Nationalism is identified with language, not with Indian ancestry; this means that migrants to

Paraguay will learn Guarani in order to be accepted as Paraguayans. The object is not to eliminate Spanish but to make Spanish and Guarani dual languages in one country--to make Paraguayans bilinguals, but with Guarani being the language of national identity. Paraguayans feel that Spanish cannot serve as a national language, since it is shared with other Latin American nations.

The early settlers of Argentina came directly and indirectly from Peru; later settlement originated in the east, in the 19th century occupation and development of the pampas grasslands, following the railroads and the growth of Buenos Aires. American Indians occupying the highlands were conquered and reduced to serfdom, or absorbed into the Spanish population by intermarriage with the early settlers. Today, some Indian languages are spoken on the Chilean, Bolivian and Paraguayan borders of Argentina, but it would be misleading to say they represent aboriginal languages of Argentina. The latter are extinct; Spanish is the major language of Argentina, but not the only one. Between 1880 and 1910 some 3,500,00 Europeans arrived, settling in the pampas regions. The more affluent settlements of Italian, French, German, and English maintain their languages by a system of private schools. Among less affluent immigrant groups the first generation becomes bilingual, with Spanish as a second language, but their children become monolingual, with Spanish as their only language.

In Buenos Aires an underworld patois (based on Italian), called Lunfardo, is the language for popular songs (e.g. tango songs).

The Following Abbreviations Will Be Used

AA	American Anthropologist
ACLS	American Council of Learned Societies
AES-P	American Ethnological Society, Publication
AL	Anthropological Linguistics
APS-P	American Philosophical Society, Proceedings
APS-T	American Philosophical Society, Transactions
BAE-B	Bureau of American Ethnology, Bulletin
BAE-R	Bureau of American Ethnology, Report
CU	Columbia University Contributions to Anthropology
IJAL	International Journal of American Linguistics
IUPAL	Indiana University Publications in Anthropology and Linguistics
JAF	Journal of American Folklore
JSAP	Journal de la Société des Américanistes de Paris
Lg	Language
RCPAFL	Research Center Publications in Anthropology, Folklore and Linguistics
SJA	Southwestern Journal of Anthropology
SIL	Studies in Linguistics
TCLP	Travaux du Cercle Linguistique de Prague
UMPL	University of Michigan Publications, Linguistics
UCPAAE	University of California Publications in American Archaeology and Ethnology
UCPL	University of California Publications in Linguistics
VFPA	Viking Fund Publications in Anthropology
WDWLS	William Dwight Whitney Linguistic Series

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